AUGUST

# COMMERCIAL FERTILIZER

and PLANT FOOD INDUSTRY

# TURF IS A BIG MARKET FOR FALL FERTILIZERS

SEE PAGE 19



# and The Kraftpacker automatic open-mouth bag filling machine go hand-in-hand!

Each does a good job by itself, and you can buy one without the other ...but working together as a team you get a packaging combination that is hard to beat for dependability, efficiency and sound economy.

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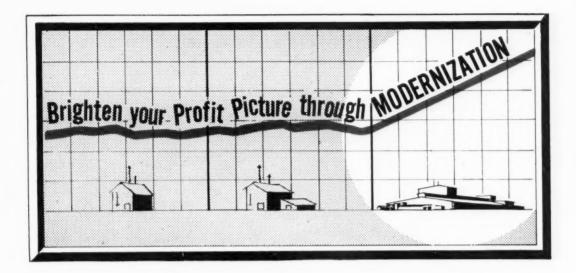
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- Bulk Blending Plants



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\*See for yourself! Send for a supply of The Burlap Council booklet,"New Uses for Old Burlap Bags".

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and PLANT FOOD INDUSTRY

Vol. 103, No. 2

August, 1961

Established 1910

#### contents

## COMMENTING FREELY

by

Bruce Moran

'60-'61 has been a season of wondering . . . about the Administration, the weather, the economic situation, the fulminations from Russia and China. Yet, if you will look back over our Around the Map feature, you will see many millions going into new plants, new equipment, research, new marketing ideas, new cooperation from manufacturer to dealer to farmer.

If heavy military drafts develop we are better mechanized than ever before. And if war brings pressure for food, the farmer is better able to meet it than ever before.

The 61-62 season is on our doorstep, and we must choose all over again the right answers to the fertilizer picture. We've done mighty well through all sorts of seasons before this. There's every reason why we should do well this season, too.

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for .
going
steady.



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says Big Chief Kay-Two-Oh. And it's not Minnehaha he has in mind, but YOU, the loyal customers who've reordered Potash again for the coming season.

"Moon after moon (Indian bop talk for 'time after time'), paleface buyers prove faithful in ordering from Pee-Cee-A-Tribe. Me heap grateful." That's a long speech for the usually silent Big Chief. It's his way of saying "Thanks" for your contract, and of letting you know that he means to keep your good will by keeping Pee-Cee-A service the best this side of the Happy Hunting Grounds.

In closing the Chief says "How". Which means: if there's any way the Pee-Cee-A scout in your territory can be of service to you, send him a smoke signal and tell him "How".

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## How Union-Camp's 5-Star Multiwall Plan increased a pallet payload by 400 lbs...without increasing its size!

A leading supplier of high density resins\* had been packing his product in 50-lb. sewn-bottom multiwalls. This gave him an efficient, 40-bag (2,000 lb.) pallet load.

When he added a low density resin to his line, however, he found his existing bag wouldn't accommodate 50 lbs. of the new resin due to its increased volume. A slightly larger, sewn-bottom multiwall was tried, but this reduced the pallet payload to 32 bags (1,600 lbs.). Net "loss": 400 lbs. Net result: more handling ... more trips to the warehouse ... higher cost.

Heightening the pallets to 10 tiers instead of 8, offered no solution—they wouldn't pass through the existing archways. To say nothing of the problem of loading trucks and trailer cars.

#### New bag does the trick

At this point, the 5-Star Packaging Efficiency Plan went to work. Union-Camp multiwall specialists experimented with several different bag sizes and styles. Their solution—a multiwall with a pasted bottom and side gussets, a rectangular-shaped base—and 20 per cent more capacity!

With the new design, 50 lbs. of the low density resin can now be packed in each bag. Most importantly, the pasted bottom bags can be palletized five to a tier, eight tiers to a skid for

a total payload of 2,000 lbs.—the same as the high density resins.

#### Warehouse space saved

The pasted-bottom bag offered several outstanding advantages. It permitted better use of warehouse space. It increased the yield per warehouseman to 1,000,000 lbs. a month. And it initiated the development of a similar design for the company's high density resins, which could increase the present pallet payload to 2,500 lbs.



Space-saving secret is in bottom of bag. New design (left) with rectangular-shaped base has 20 per cent more capacity than sewn-bottom bag (right).

#### Works for you five ways

Apart from bag construction and materials handling, Union-Camp's 5-Star Plan covers bag design, packaging machinery and specifications control. An improvement in any one of these areas conceivably could result in substantial savings for you. In any case, it costs nothing to find out.

See your local Union-Camp man for complete details.



2,000 pallet load of new, low density resin bags fits easily through existing doors.

#### FREE 16-PAGE BOOKLET

Write Dept. M-3 today for a free copy of Union-Camp's new 5-Star Plan booklet. It describes many case histories showing how packers like yourself have achieved greater efficiency and economy in their multiwall operation.

### **UNION-CAMP**

MULTIWALL BAGS

A ....ME ON REQUEST

# See what you get... and can Guarantee

with only 20 pounds of to a ton of fertilizer



Percent to total, by weight	FTE FORMULA 501	FTE FORMULA 502
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Cu copper	.02	.02
Znzinc	.04	.04
Mn MANGANESE	.049	.097
Fe IRON	.12	.039
Mo MOLYBDENUM	.0013	.0013

You get all six minor elements in a single productand as little as 1% in your mix will meet most requirements for trace-element additives.

Being fritted and slowly soluble at a controlled, predetermined rate, FTE won't leach out-or become fixed in the soil. It stays in the root zone and releases the nutrients as needed, all through the growing season.

Two standard formulas are immediately available.

Others are being developed for specific areas of the country. All can be safely used anywhere, and on any crops, simplifying both manufacturing and marketing of fertilizers.

If you're not now using FTE, you'll find it profitable to do so. It costs but little, and can make a big difference-in the results your customers get; in your own future sales and profits.



FERRO CORPORATION Agricultural Division

# **SINCLAIR ANHYDROUS** Prompt delivery at all seasons...

**FARMERS CAN'T AFFORD** to settle for "too little – too late," when it's time to apply fertilizer. Farmers depend on *you* to supply their needs right on schedule.

You can depend on Sinclair for getting your requirements of anhydrous ammonia and nitrogen solutions delivered on time to your plant, even during your peak season.

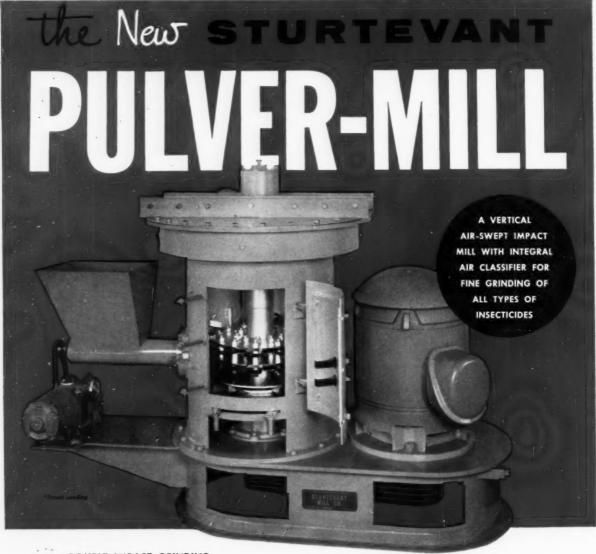
With vast, centrally-located storage for anhydrous ammonia and nitrogen solutions at Hammond, Indiana, Sinclair is always prepared to ship whatever quantities you need – at a word from you.

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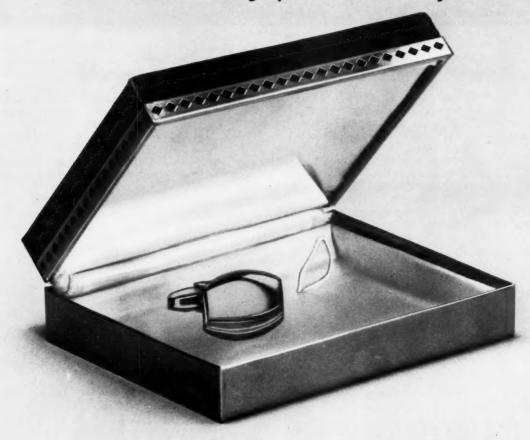
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Davison phosphates are highly respected products. They deserve their reputation because they have earned it over the years. To Davison, quality of product is important... but only part of the story. When you decide on Davison as your source for phosphates... normal, triple, or diammonium, everything is keyed to assure you of satisfaction. Delivery is dependable. Uniformity is carefully controlled and assured. And if you need technical assistance Davison experts are ready, willing and very able to help you.

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ophy of good business. You get both quality . . . and service. There is a Davison representative in your area constantly. He can answer your questions and he is more than happy to serve you. If you would like to see him immediately, simply phone SAratoga 7-3900 (Baltimore).



Hi-Flo® Gran-U-Lated Triple Superphosphate 46% APA • Hi-Flo® Run-O-Pile Triple Superphosphate 46% APA • Hi-Flo® Blend-Phos Triple Superphosphate 46% APA • Granulated Diammonium Phosphate 16-48-0 • Run of Pile Normal Superphosphate 20% APA • Granulated Diammonium Phosphate 16-48-0 • Run of Pile Normal Superphosphate 20% APA • Phosphate Rock—all grades and grinds • Phosphoric Acid—78% H<sub>2</sub>PO<sub>4</sub>—54.3% P<sub>2</sub>O<sub>4</sub> • Sulfüric Acid—60° B6; 66° B6; 98% H<sub>2</sub>SO<sub>4</sub> • Oleum—20% and 25%



#### JUST AROUND THE CORNER

By Vernon Mount



UNGOVERNED TEMPER is about the only thing that could really start World War III. Things are really so well balanced in terms of military give and take that no rational leader would push the red button except in a massive fit of anger. It could happen, though,

HOW DO WE STAND? We would like to be better prepared both in nuclear defense and in trained, well-equipped ground forces. We apparently have some pretty fine troops waiting off-stage. But modern munitions have not penetrated deep enough into the National Guard. Old guns, old planes. . . .

OLD TAXICABS won a holding battle, I remember, and saved Paris. The men at Bunker Hill had almost no ammunition, few guns, and fought with scythes and guts. We are not that bad off, but we could be better equipped than we are.

DON'T WORRY; the percentage is against the grass fires in Berlin, Laos and elsewhere building up into international holocausts.

JUST KEEP PLUGGING!

Yours faithfully.

Vernon Mount

# ermott

plan, design and build

### DRYERS COOLERS AMMONIATORS



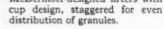
8' x 60' oil heater rotary dryer removes excess moisture, completes granulation.



McDermott-designed lifters with

This is one of 17 Rotary Dryers and Coolers, planned, designed and built for the American Agricultural Chemical Company. This dryer installation is at their Saginaw plant.

Write for free brochure on McDermott Equipment, or for estimates.







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41 plants of The A.A.C. Co., located in the United States, Cuba and Canada, assure you dependable, fast deliveries of AA quality products for farm and industry. You can schedule your production with confidence...the right quantity and grade will be at your plant when you need it.

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## American Agricultural Chemical

Company

#### producers of:

Florida Pebble Phosphate Rock • Superphosphate

AA® QUALITY Ground Phosphate Rock

All grades of Complete Fertilizers • Keystone® Gelatin

Bone Products • Fluosilicates • Ammonium Carbonate

Sulphuric Acid • Phosphoric Acid and Phosphates

Phosphorus and Compounds of Phosphorus



GENERAL OFFICE: 100 Church Street, New York 7, N.Y.

## SYMBOLS OF PLANT LIFE



A 20TH CENTURY SYMBOL FOR HIGHEST QUALITY POTASH

from prior research, alchemists frequently developed materials by accident.

TODAY, MATERIALS ARE DEVELOPED BY PLAN TO MEET A NEED—JUST AS EACH TYPE OF HIGH-K MURIATE IS MADE TO MEET SPECIFIC REQUIREMENTS.

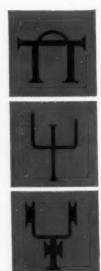
STANDARD HIGH-K MURIATE IS TAILOR MADE FOR CONVENTIONAL FERTILIZER MANUFACTURE AND VARIOUS RATIOS OF GRANULATED GRADES. IT FEATURES UNIFORM PARTICLE SIZE RANGE AND CHEMICAL ANALYSIS.

COARSE HIGH-K MURIATE IS USED IN THE MANUFACTURE OF CONVENTIONAL FERTILIZER AND IS ESPECIALLY USEFUL IN GRANULATION PLANTS. REASON: A CRYSTAL STRUCTURE WHICH DOES NOT BREAK DOWN WHEN ACIDS AND OTHER LIQUIDS ARE USED IN FORMULATION.

GRANULAR HIGH-K MURIATE IS A LARGER PARTICLE SIZE MURIATE FOR SPECIAL USE. SOUTHWEST POTASH PIONEERED THE PRODUCTION OF THIS ALL COMPACTED PRODUCT.

OUR PLANT PROCESSES ARE CONTINUALLY BEING MODERNIZED TO SUPPLY TYPES OF MURIATE NEEDED AND PREFERRED BY FERTILIZER MANUFACTURERS.

ON SCHEDULE SHIPMENT, CAR AFTER CAR, DAY AFTER DAY, IS MAINTAINED THROUGHOUT THE YEAR.



Medieval alchemists' symbols for potash and cribbled ashes

#### SOUTHWEST POTASH CORPORATION

1270 Avenue of the Americas, New York 20, N.Y.

# THEIR BUSINESS IS MAKING YOUR BUSINESS BETTER

They're four of several hundred Cyanamid people who mine, process, research, deliver and service phosphatic materials for your acidulation and mixed fertilizer business. These people put Cyanamid's more than 40 years of phosphate experience into products and services you can use.

#### Services you can use

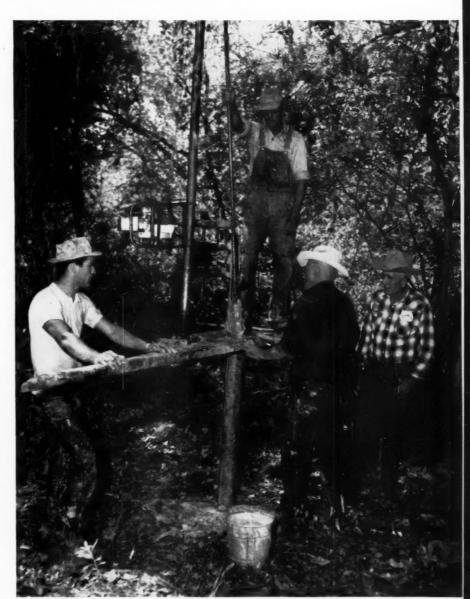
Traffic Service: Cyanamid traffic specialists are ready to route and ship your orders without delays. Their knowledge can save you money, and can make your operation run even more efficiently. Technical Service: Cyanamid's staff of technical experts are constantly at your service. Make your formulation and production problems theirs. That's their job. Sales Service: Cyanamid sales representatives are available to work with and for you in expanding present markets or in establishing new markets.

#### Products you can use

Cyanamid's phosphate business is the mining and manufacturing of the highest quality products for your mixed fertilizer requirements.

- · Florida Natural Phosphate Rock.
- TREBO-PHOS® Triple Superphosphate.
- Phosphoric acid an economical source of P<sub>2</sub>O<sub>5</sub> for high analysis fertilizers.

American Cyanamid Company, Agricultural Div., N. Y. 20, N. Y. ®TREBO-PHOSis American Cyanamid Company's trademark for its triple superphosphate.



One of Cyanamid's prospecting crews checks a sample just taken from the well. Their work in locating and verifying phosphate deposits is essential in maintaining adequate reserves of mineable, high-grade phosphate rock for your requirements in future years.

CYANAMID

PHOSPHATE PRODUCTS

CYANAMID SERVES THE MAN WHO MAKES A BUSINESS OF AGRICULTURE



#### Save 10 to 20¢ per ton with St. Regis pasted valve bags

By switching to St. Regis® pasted valve bags, you can actually save up to 20¢ on every ton you pack, a cost reduction of from \$5 to \$10 per thousand bags.

Less expensive, more compact and stronger than sewn bags, these box-like packages are specially designed for easy palletizing. Thus, storing, handling and shipping costs are cut to a minimum. These bags also allow superior butt and edge printing for better brand identification.

You'll also want to look into another valuable packaging development from St. Regis—new Poly-Lok\*, the polyethylene-film

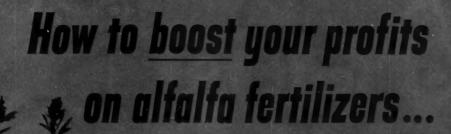
valve insert that virtually ends bag leakage.

You can convert your present valve equipment from sewn to modern pasted bags simply and quickly. Your local St. Regis packaging engineer is a fertilizer packaging specialist—ready to help you.

Pasted valve bags are another example of St. Regis Packaging-in-Depth. This complete bag service assures you of the right bag, the right machinery to pack it, plus the services of highly-skilled engineers. To meet your future needs, this program also includes continued research to develop improved packaging methods and economies.



## PACKAGING-IN-DEPTH BY St.Regis ® BAG DIVISION In Canada, contact St. Regis Consolidated Packaging Co., Ltd. PAPER S COMPANY



Offer an "alfalfa special"—a little borax added to your mix is all it takes to provide you with a product that has a lot of sales plus. Borax is so vital to the profitable growth of alfalfa that most large producing states recommend annual applications.

Formulate a borated fertilizer to fit your area's soil needs...it can boost yields for the farmer and build bigger profits for you.

Get the full borax profit story—write to Plant Food Sales, U.S.BORAX, 50 Rockefeller Plaza, New York 20, N.Y.

U.S. BORAX

Top-quality Alfalfa . . . Fertilized with boron, grows lush and strong — provides maximum yields with increased profits. Such vigorous growth shades out weeds and results in longer life stands.

> Boron-hungry Alfalfa . . . Dwarfed . . . with yellow or reddened top leaves, stunted; growing tips rosetted. These are nature's distress signals calling for boron.

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# Arcadian News

Volume 6

**Nitrogen Division, Allied Chemical Corporation** 

Number 8

# Turf is a Big Market for Fall Fertilizers

The green grass in home lawns, play-grounds, golf courses, airports and other non-crop land is a huge and expanding market for fertilizers—spring, summer and fall. It is a particularly good sales opportunity in the fall. Turf experts recommend a heavy application of fertilizer to established grass in the fall. Early fall is also the best season for starting new lawns and renovating old ones.

#### Year-round Market

Right now is an excellent time to go after this year-round market. More than half of the home-owners who have lawns use fertilizer, and an even bigger share of the commercial turfed areas are being fertilized to keep them lush and green.

Non-farm uses of fertilizer now make up about 15% of the total tonnage sold and much more than 15% of the money spent for fertilizers. Turf gets the biggest share of this non-farm fertilizer. Turf is a fertilizer market that is seldom hurt by drouth and it is unaffected by government crop reduction programs.

Beautiful green turf is the pride and delight of the grower. Help him to grow better grass with fertilizer and you are launched in a profitable market. Today it's easy to produce the easy-handling, odor-free, concentrated fertilizers containing slow-release nitrogen that turf

growers need and want for best results.

Nitrogen Division, Allied Chemical Corporation, can supply you with the nitrogen products you need for making high-quality turf fertilizers in the most popular and efficient plant food ratios, such as 3-1-1 and 2-1-1.

Turf grass needs plenty of nitrogen along with moderate amounts of phosphate and potash. The average lawn is mowed once a week through a long growing season, with an inch or so of growth removed at each clipping. This means that a tremendous amount of leaf surface is produced each year.

#### **Methylene Ureas**

To keep this new growth coming along regularly to maintain a well-kept lawn, the shallow-growing roots of turf grass need a steadily available supply of plant foods. The usual forms of nitrogen which are quite satisfactory for short-season or deep-rooted farm crops tend to become available too fast and to disappear from the shallow root zone of close-cut lawn grasses.

To maintain the steady, even growth that makes a good lawn, your fertilizer needs the slow-release, long-lasting nitrogen in methylene ureas produced by Nitrogen Division, Allied Chemical Corporation. For high-analysis turf fertilizers, it will pay you to use ARCADIAN

N-dure, ARCADIAN Urea 45 and one of the ARCADIAN U-A-S Nitrogen Solutions. For less concentrated fertilizers and for formulas containing a smaller percentage of nitrogen from the slow-release methylene ureas, ARCADIAN DURANA Nitrogen Solution is ideal for use in ammoniation.

#### Small Package Market

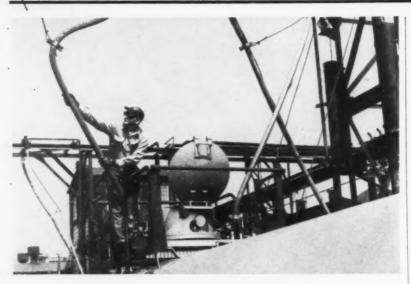
The turf market for fertilizer is largely a small-package market. But there are many repeat customers for high-quality turf fertilizers and they come back for more several times a season, not just once a year. This helps you to develop year-round tonnage by building a reputation with satisfied customers.

Right now you can get ready for the fall turf fertilizer sales season. By getting production under way now, you can cash in on the fall season and also produce turf fertilizers for 1962 ahead of your production of regular fertilizers.

See your Nitrogen Division, Allied Chemical, technical representative. He will advise and assist you on the formulation and production of high-quality turf fertilizers. Contact: Nitrogen Division, Allied Chemical Corporation, 40 Rector Street, New York 6, N. Y.

"ARCADIAN", "N-dure", "U-A-S" and "DURANA" are trade-marks of Allied Chemical Corporation.

## Arcadian News for Fertilizer Manufacturers from Nitrogen Division, Allied Chemical



# Your choice HOSES and care of

Hoses and their fittings are important equipment in your plant. Frequent handling, often under difficult conditions, makes it advisable to choose the right hoses and use them well. Get the best possible recommendations from your supplier. Let him know what kind of liquids will be going through your hoses and fittings. Indicate the maximum working pressure to which a hose will be subjected. Then he can provide equipment that will perform safely for a long time. Here are some factors to consider when ordering hose equipment:

#### **Pressures**

In fertilizer manufacturing, anhydrous ammonia exerts more pressure on hose than any other material. Remember, vapor pressures are only a guide to determine probable working pressures of a material. Sometimes it is necessary to apply 20 pounds or more of pressure beyond vapor pressure to assure satisfactory operations with an ammoniating solution.

Vapor pressures in tanks are more the result of temperatures of the vapor and the surface of the liquid than mass liquid temperature. Such pressures can develop in most parts of the country even though atmospheric temperatures never reach

Approximate Vapor Pressures (Gauge) of Some Materials in Pounds per Square Inch

	104°F.	120°F.	130°F.
Anhydrous Ammonia	211	272	316
Nitrana® 6 Solution	48	68	_
Nitrana 3MC	34	50	61
Urana® 10	22	35	44
Urana 6M	17	27	34

high levels.

Positive displacement and some centrifugal pumps are capable of developing pressures beyond the safe limits of hose equipment. Relief valves can protect against runaway pressures. Without these valves, serious situations can suddenly develop. Excessive pressure can rupture the hose or force it off its couplings. Keep this in mind when ordering hoses for acids, ammoniating solutions and anhydrous ammonia.

#### **Hose Construction**

Specific hose, fittings and gaskets should be provided for certain chemicals. It may be dangerous to use the wrong hose for economy or convenience.

For example, forged steel fittings and steel armor protection on hoses that

handle anhydrous ammonia would be quickly destroyed by acids, and ammoniating solutions. Rubber is suitable for phosphoric acid and nitrogen solutions, but it is damaged by sulfuric acid.

Stainless steel is stronger than aluminum, and is preferred for the ammoniating solution hose fittings. Use appropriate materials for gaskets in the couplings, and make sure they are of the right size and in good condition.

Remember that ammonia gas—and, conceivably, liquid solutions—are under considerable pressure at one end of the compressed air system. Therefore, at the tank car you should use hose made for compressed air. Use steel, malleable iron or stainless steel fittings for air hose.

The hose manufacturer must be trusted to supply hose for the job as described, but choice of fittings often is left to the buyer. Frequently the buyer attaches his own fittings, particularly when replacing them on old hoses. Fixing of fittings on heavy hoses that handle hazardous materials is no job for amateurs.

Where quick-acting couplings are used, every precaution should be taken to make certain there is no pressure in the system when the coupling is being disconnected. A small valve for bleeding off pressure—and the liquid or gas—is a worthwhile addition.

For hazardous products, four large bolts on each hose clamp are highly recommended. There have been some bad accidents caused by the failure of bands or inadequate clamps on hoses.

#### **Use and Maintenance**

After hose equipment is installed, it will pay you to see that it is used and cared for properly. Some major causes of failure or short life of hoses and fittings are:

- Kinks at the ends of inserted fittings; kinks caused from not using pipe elbows when advisable, or by poor handling and storing. Hoses should be stored straight and flat, horizontally.
- Deterioration from sun, excess heat, oil, grease and water. You can prevent water from entering the fabric of raw ends at the couplings by coating with rubber cement.
- Strain on tank car valves and at other points. Use short nipples at tank cars to avoid excessive strain.
- Corrosion and wear of metals. Wear in the threads of stainless steel and aluminum will weaken these points in the line. Careful inspection before every use and cold water pressure tests at least four times greater than the working

pressure, conducted twice a year, will go a long way toward avoiding accidents.

When a hose is removed from duty, it is a good idea to flush out residues with water. This may avoid injuries to plant personnel.

Workers should wear chemical-plant safety goggles, full-face shields, protective head-gear and full-length chemical-plant rubber gloves when connecting or disconnecting tank cars. Ammonia-type gas masks should be available for workers who may run into emergencies while handling anhydrous ammonia and ammoniating solutions. A good supply of water near the connected hose, but protected from possible spraying, is a sensible precaution.

Some operators follow a practice of replacing all hose every two years. Like a chain, the hose is no stronger than its weakest link. Make sure all your "links" are strong enough.

#### **Ask Nitrogen Division**

Nitrogen Division technical service men have a thorough knowledge of methods used by manufacturers to speed production of good-condition mixed fertilizers. It will pay you to get their advice and assistance. This service is available to customers without charge. Simply contact Nitrogen Division, Allied Chemical, 40 Rector Street, New York 6, N. Y. Phone: HAnover 2-7300.

# Organize Bulk Handling for Farmer Application

It's time to get set for bulk handling of fertilizers spread by farmers and by custom application. Most fertilizer is bought in bags and spread by farmers. You can increase fertilizer tonnage and profits by helping dealers move into bulk handling and spreading. Everybody down the line saves time, labor and expense. And you have an excellent opportunity to get and hold more customers.

Your best bet is to strengthen the weak link in most bulk-handling systems — the final stage of getting the fertilizer into the farmer's grain drill, planter or broadcast fertilizer spreader. In custom spreading, your dealer is limited by the number of expensive bulk trucks he can afford and the road time travelling to farmers' fields. Simple and inexpensive bulk tanks or bins for use on the farmer's truck or wagon are the real answer to bulk-spreading sales and profits.

#### **Rent Bins**

Your dealers can sell or rent these simple, sturdy bins of plywood or steel to

a large number of farmers. A hoist or fork lift easily places a bulk bin on a farmer's truck. A push button fills it at your plant or dealer's storage. The farmer can bring the bin back for quick bulk fertilizer refills as often as needed. Or, you lift the bin onto the next truck.

#### Make It Easy!

The portable bins which unload by gravity direct into the farmer's grain drill or the hopper on his fertilizer spreader, are the simplest of the new bulk-handling systems. Self-unloading feed or grain wagons with auger attachments are also excellent for fertilizer hauling and handling. New planters, drills and spreaders have larger fertilizer hoppers to simplify filling from bulk or bag. Help make it easy for the farmer to handle bulk fertilizer for row or drill seeders and broadcast spreaders and you increase your sales of your most profitable mixed fertilizers.

When you organize for bulk handling of fertilizer all down the line, your farmer customers know you are in business to provide efficient service. You'll be fully equipped to handle the needs of the farmers who buy the most fertilizer. Bulk handling and bulk spreading are becoming a necessity in modern farming, where back-breaking chores must fade out of the picture. Good farmers know that high yields require plenty of fertilizer in the row and plowed down. Make it easy for them to apply your fertilizer, and you get more business.

Results on thousands of farms show that farmers who turn to bulk handling and spreading use more fertilizer. Many of the dollars saved on labor and handling are spent on more fertilizer. The back-breaking chore of handling bags is no longer a bottleneck to fertilizer sales. Bulk up your fertilizer business by getting organized for bulk handling!



This self-unloading bin with auger attachment from tractor take-off automatically unloads fertilizer from the bin into the distributor. This type of equipment enables the farmer to do his own custom spreading of bulk fertilizer.

NOTE: The information furnished in this issue of the ARCADIAN News is obtained from studies and tests considered reliable; results, however, are not guaranteed.

# Helpful Fertilizer Data in 1959 Census Reports

The fertilizer industry is finding a "gold mine" of helpful information about farms and farmers in their areas in the 1959 U.S. Census of Agriculture. Report sheets (AC 59) for each state and county are for sale at 10 cents each by the Bureau of the Census, Washington 25, D. C. There is a minimum of waste because you can order sheets for only the states and counties you specify.

Much publicity has been given to the decrease in number of farms during recent years. Census of Agriculture reports show that this is true, but in most counties the number of acres per farm has increased. Of special importance to fertilizer people is the fact that from 1954 to 1959 the number of acres fertilized in 48 states increased from 122,809,445 to 132,133,068 (7.6%) and total tons of commercial fertilizer used by farmers increased from 18,869,117 to 19,673,490 (4.2%) during the same period.

The Census of Agriculture report sheets provide much more information of practical importance to fertilizer men who wish to study their markets. For each state and each county they give 1959 and 1954 data on a comparable basis, for the following: total number of farms; total acres in farms; average size of farms; value of land and buildings — average per farm and per acre; land in farms according to use, e.g., cropland, pasture, irrigated land; and, number of farms by 12 size categories and 4 types of operators: full-owners, part-owners, managers, and tenants.

Answers to some rural sociological questions are given, such as: average age of all farm operators reporting; number of farm operators 65 or more years of age; number residing on farm; number working off their farms; and number with "other income of family exceeding value of products sold."

Most of the information under "Specified Facilities and Equipment" is for 1959 only. Fortunately, data on "Use of Commercial Fertilizers and Lime" are given for 1959 and 1954. They include: number of farms reporting use and number of acres on which used. Data for 1959 only are included for: farms reporting use; number of acres fertilized, number of tons of dry and liquid materials respectively for three specified crops which vary from state to state, and for hay and cropland pasture, non-cropland pasture, and "all other" crops.

Much of this information by states and counties has been made available to fertilizer people through a wall map entitled "Use of Commercial Fertilizers by Farmers" and individual State tables by the ARCADIAN News.

Detailed data on livestock and poultry on farms; livestock and poultry products sold; and specified crops harvested in 1959 and 1954 are given in the census report. The information on crops harvested, when compared with amount of fertilizer used on specified crops, gives fertilizer people powerful sales data.

Data on types of farms, such as: field-crop farms – cash-grain, tobacco, cotton, and other field-crops; vegetable farms; fruit-and-nut farms; poultry farms; dairy farms; and livestock farms—are given for 1959 only.

Also, important data on number of farms in six economic classes: (1) farms with sales of \$40,000 or more; (2) \$20,000-\$39,999; (3) \$10,000-\$19,999; (4) \$5,000-\$9,999; (5) \$2,500-\$4,999; and (6) \$50-\$2,499 are given for 1959 only. Similar data for part-time, part-retirement, and other, are also given.

Fertilizer people know that there are two important ways to increase the use of commercial fertilizers by farmers in their areas: First—convince more farmers that they should use fertilizers and second—show farmers who are now users how they can profitably use more fertilizers on their farms.

Much of the information in the 1959 Census of Agriculture reports indicates the size of this opportunity.

For example, in the 12 North Central States the percent of all farms using commercial fertilizers is 62.3%. If this could be increased to 81.2% (the figure for the "red" counties using 15,000 or more tons) the total amount of fertilizer used would be approximately one-third greater. This would come without an increase in the average amount of fertilizer used per farm.

If this average could be increased from the 1959 average of 7.6 tons per farm to 11.2 tons (the average per farm for the "red" counties) the total amount used would be about 47% greater.

Obviously neither of these goals could be achieved in one or two years, but it is reasonable to believe that total fertilizer use in these states could be increased by from one-third to one-half before the 1964 Census of Agriculture.

## BEST N FOR YOUR N-P-K



## NITROGEN

There are many reasons why it pays you to use ARCADIAN® Nitrogen Products in the manufacture of your mixed fertilizers. Here are only a few:

You are served by the leading producer of the most complete line of nitrogen products on the market. You have many different nitrogen solutions from which to select those best suited to your ammoniation methods and equipment. You get formulation assistance and manufacturing advice from the best-qualified technical service staff in the industry. You benefit from millions of tons of nitrogen experience and the enterprising research that originated nitrogen solutions. You get many important bonus values when you make ARCADIAN Nitrogen the N in your N-P-K.

# ARCADIAN Nitrogen Products

NITRANA® Nitrogen Solutions
URANA® Nitrogen Solutions
DURANA® Nitrogen Solutions
U-A-S® Nitrogen Solutions
Anhydrous Ammonia
N-dure® Solution
A-N-L® Nitrogen Fertilizer
Ammonium Nitrate
UREA 45 Nitrogen Fertilizer
Sulphate of Ammonia
American Nitrate of Soda



NITROGEN DIVISION
MAIN OFFICE: 40 Rector St., New York 6, N. Y.

CREDIT COLLECTIONS

CREDIT COLLECTIONS

CREDIT COLLECTIONS

CREDIT COLLECTIONS

Extension of credit is one of the many normal services performed by our industry. But, within the past few months we have been hearing more and more comment about the credit practices of the industry . . . formal and informal credit.

We hear complaints from all over the country that the policy of granting informal credit by allowing accounts receivable to increase — intentionally or otherwise — has gotten completely out of hand.

We read comments, such as: "Never since the 1930's have so many operators cut so many prices so severely, nor extended such crazy and unsound credit terms."

If our industry had not always been resourceful it would not exist today. We wonder how long the industry can afford to bury heads in the sand like the ostrich; how long it will be before someone takes the credit bull by the horns, establishes a sound credit policy, and tames that vicious animal.

#### Texas Gulf

Bryan W. Guess has been named head of sales for the new potash division of Texas Gulf Sulphur Company, according to an announcement by A. Nelson Myers, vice president and manager of sales. The new division will mine the large potash deposit in southeast Utah, which Texas Gulf believes to be richer than any other known reserve in this country. With mine construction already well under way, production will begin late 1962, and shipments should commence shortly thereafter. Mr. Guess will have responsibility for all potash sales and will commence at once to staff and organize a marketing department in the new division.

Mr. Guess, who will make his headquarters in New York City, has had broad experience in marketing sulphur and other soil nutrients. For the past three years, he has been assistant manager in the company's sulphur sales department. Earlier he was associated for twelve years with Swift & Company's fertilizer division which marketed superphosphates and fertilizers.

Herbert R. Miller has joined the sales department of Texas Gulf according to Myers. Mr. Miller has been vice president of the International Division of Century Chemical Corporation. He was earlier associated for twelve years in sales capacities with Mathieson Chemical Corporation.

#### Coleman Instruments

Charles W. Roberts has been appointed Southwest district sales representative for



Roberts

Coleman Instruments, Inc., Maywood, Ill. He will serve a 6-state area from his Houston, Texas headquarters.

A civil engineering graduate of the Universi-

ty of Alabama, Mr. Roberts had been salesman for the A. S. Aloe organization in Houston.

Coleman Instruments, Inc. designs and manufactures scientific instruments for chemical analysis in medical and industrial laboratories.

#### American Cyanamid

John M. Fasoli has been appointed associate director of purchases for American Cyanamid Company in New York City.

# PEOPLE in the

#### Federal Chemical

Federal Chemical Company, a division of National Distillers and Chemical Corporation announced the appointment of two division sales managers effective July 1.



Hemeier



Chester

Victor C. Hemeier has been made sales manager of Federal's Butler, Indiana division. He succeeds Floyd L. Lucas who retired after serving Federal since 1924.

Guy T. Chester has been appointed sales manager of Federal's Humboldt, Tennessee, division. He replaces W. M. Stallings who has retired after twenty-seven years with Federal.

#### Mid-South

Appointment of Scott Mabry as a district manager for Mid-South



Mabry

Mr. Mabry received his B. S. degree at North

Carolina State College with a major in agronomy, and has been a district manager for Suburban Propane Gas Corporation, an agricultural service organization on the East Coast.

Mr. Mabry is married and has four children. He served in Europe with the Army during World War

Mr. Bradford announced Mr. Mabry has been assigned to Eastern Iowa and Western Illinois district for Mid-South Chemical Corp. His home will be at Alexis, Ill. (P.O. Box 159).

Mid-South Chemical Corporation, an affiliate of Cities Service Co. and Continental Oil Co., is one of the nation's largest distributors of anhydrous ammonia fertilizer.

#### Stedman

The Stedman Foundry & Machine Company, Inc., announces the ap-



Schneider

pointment of Richard (Dick)
E. Schneider as sales engineer for the states of Minnesota, Iowa, Missouri and portions of Illinois and Wisconsin. Dick will make his head-

quarters at 535-32nd Ave., Moline, Illinois, phone 762-9812.

Dick has had considerable experience in mining and allied industries, including extensive work with the United States Geological Survey in Alaska. He spent considerable time in the Rocky Mountain area of the United States, as well as in the West and South West during his association with the Union Carbide Nuclear Company, the General Geophysical Company, and Twin Star Industries. Prior to his affiliation with the Stedman Company, he was an Uranium Consultant in Colorado.

#### V-C

Virginia-Carolina Chemical Corporation has promoted Charles H. Kelley to manager of its bag division and Ernest R. Lacy to sales manager of its mining division.

Mr. Kelley succeeds C. Bruce Rennie who retired June 30. Mr. Lacy joined V-C in 1923.

Meredith G. Burnett, formerly superintendent at V-C's Lynchburg, Va., plant, has been named superintendent at Baltimore, Md. Laywood J. Brightwell, formerly general foreman at Lynchburg, has been promoted to acting superintendent there.

#### TVA

Drs. Charles F. Douglas and Warren J. Sharratt have been appointed fertilizer distribution analysts with the Division of Agricultural Relations, Tennessee Valley Authority. Their offices are at Muscle Shoals, Alabama. Dr. Douglas formerly was research instructor in agronomy at Purdue University, and Dr. Sharratt was research assistant in soils at the University of Wisconsin.

# INDUSTRY

Bradley

William R. Bradley and Associates of Newark, N.J., environmental health consultants have announced that Arvil B. Pettit, formerly director of industrial health and safely for W. R. Grace & Co. has joined their firm as a consultant on safety, fire and explosion, and marine hazards.



Pettit

While at W. R. Grace & Co., Mr. Pettit had complete responsibility for industrial health and safety, including fire prevention and air and water pollution control of more than

70 industrial plants and mines in the United States and abroad, and has been an active force in the Fertilizer Section, Natl. Safety Council.

During the period in which he worked for Davison Chemical that company received the Award of Honor of the National Safety Council five times in a six year period.

#### St. Regis

The Bag Division of St. Regis Papare Company expansion program



Walker

involves new sales management appointments and the creation of new sales territories east of the Mississippi.

Harry W. Walker has been named director



Doolan

of operations (sales) for a newly formed Great Lakes-Gulf Area which will include the territory from the Great Lakes, through the Ohio Valley, and south to the Gulf of Mexico.

Don R. Russell has been appointed to succeed Mr. Walker at Co-

lumbus as sales manager of the Ohio Valley region.

Mr. Walker also will be assisted in the new Great Lakes-Gulf Area by William A. Harris, who will continue as sales manager of the Chicago region, and John B. Brent, who will continue as sales manager of the Southern region with headquarters in Birmingham, Ala.

Charles A. Woodcock, who continues as director of operations (sales) for the Eastern Area, with headquarters in New York City, will be assisted by the following newly appointed regional sales managers: William S. Doolan, South Atlantic region; Robert E. Harrison, Mid-Atlantic region; William T. Orr, Northeastern region; and William H. Versfelt, metropolitan New York region.

The creation of the South Atlantic sales region is an extension of the Bag Division's operations in Savannah, which include the activities of the Chemical Packaging Company Division.

As sales manager of the Mid-Atlantic region, Mr. Harrison returns to the division's Baltimore office where he had served earlier as branch manager and sales representative.

Mr. Orr, new sales manager of the Northeastern region, has been in the bag division's sales organization since he joined St. Regis in 1947. For the past two years he has been sales promotion manager of the Eastern Area.

The scope of operations of the metropolitan New York region has also been expanded. As sales manager of this region, Mr. Versfelt will continue to make his headquarters in the New York office where he has served most recently as district sales manager.

#### Hooker

H. William Elder has been named supervisor—process engineering, for the Phosphorus division of Hooker Chemical Corporation. The announcement was made by Robert E. Noble, general manager of the division, who stated that Mr. Elder will be located in Jeffersonville, division headquarters.

Mr. Elder joined Hooker last September as a process engineer at the Columbia, Tenn. plant. Previously he was connected with the Tennes-

see Valley Authority, office of chemical engineering, at Wilson Dam, Ala.

#### Sturtevant

Clayton F. English, 55, executive vice president and treasurer of Sturtevant Mill Company, Dorchester, Mass., has been elected chairman of the board, succeeding William T. Doyle, 74, who retired in June after 57 years with the company. Mr. English joined Sturtevant in 1947.

Mr. Doyle, who came to Sturtevant in 1904, was the company's "elder statesman" in the areas of fine grinding and air classification. He became chairman of the board in 1957, after serving as president since 1947. George P. Towle succeeded Mr. Doyle as president. He retains his presidential post.

Mr. English will continue to serve as executive vice president and treasurer. Mr. Doyle will remain on the Sturtevant board.

#### Simplot

C. E. 'Bill' Brissenden has been appointed assistant sales manager of the Minerals & Chemical Division of the J. R. Simplot Company, it has been announced by Ben D. McCollum, sales manager.

Mr. Brissenden has been with Simplot nine years, the last four in charge of Division Market Development. Prior to that, he was manager of Platte Valley Fertilizer Company in Scottsbluff, Nebraska and Simplot Soilbuilders of Rupert and Unity, Idaho.

The Minerals & Chemical Division also announced the appointment of Donald B. Holzer as sales representative for Oklahoma and Texas. Mr. Holzer is a 1961 graduate of Oklahoma State University with a major in Agronomy. He will maintain an office in Amarillo, Texas.

#### Buell

Schaeffer E. Specht has been appointed general sales manager for

Buell Engineering Company, New York, New York, J. L. Schumann, president, has announced.

In his new capacity, Mr. Specht will supervise all sales operations for



Spechi

Buell Engineering Company and its Northern Blower Division in Cleveland, Ohio. He was formerly western district sales manager.

Mr. Specht has been active in the air pollution and dust recovery field for the past ten years.

(continued on next page)

### —Industry People...

#### Raymond Bag

Raymond Bag Corporation has announced the appointment of Jerry



H. Wright to the company's Sales staff.

Mr. Wright was formerly with American Airlines, and is a graduate of Drake University, Des Moines, Iowa.

He has been assigned to Raymond's Sales office in Chicago.

E. E. Heydt has been assigned to represent the company in the Michigan, northern Indiana and Ohio sales area. He was previously connected with Raymond's Chicago office.

#### Royster

William F. O'Brien, became superintendent of the F. S. Royster Guano Co. Madison factory July 17. He succeeds H. L. Banton, who will become superintendent of the firm's Baltimore factory.

#### Ortho Division

James E. Spaulding has been appointed chief plant engineer at California Chemical Company's giant fertilizer plant now under construction at Fort Madison, Iowa, according to an announcement by Frank Juchter, manager of manufacturing department, Ortho Division, Calchemical.

William G. Johnson has been appointed as agricultural sales representative for the Brownfield, Texas, branch of Ortho Division, in the South Plains area of West Texas.

#### International Paper

Carlton F. Evans has been named assistant midwestern regional sales manager of International Paper Company's bagpak division, it was announced by R. A. Gair, Jr., sales manager for the division. Mr. Evans joined I-P as a sales trainee in 1949.

#### U. S. Borax

William C. Teach has joined U. S. Borax Research Corporation as a senior scientist, according to an announcement by Dr. C. L. Randolph, vice president of the wholly-owned subsidiary of United States Borax & Chemical Corporation.

#### Central Farmers

Kenneth F. Lundberg, for 25 years with the Western Farmers Association, Seattle, has succeeded Joe J. Lanter, president since 1955, to head Central Farmers Fertilizer Company of Chicago.

#### W. R. Grace

R. L. Tilton has been promoted to general sales manager of Nitrogen Products Division, W. R. Grace & Co. and will be in charge of all sales of ammonia, urea and solutions. His office will be at Division headquar-





ters in Memphis, Tenn. He succeeds F. J. Ronan, who has been elected vice president in charge of marketing for the Division in New York. For the last two years, Mr. Tilton was sales manager for Grace's St. Louis district. Prior to joining Grace, Mr. Tilton directed promotion of ammonia sales in the Midwest for Olin-Mathieson.

This promotion was announced by William J. Haude, President of Grace's Nitrogen Products Division who announced these additional executive promotions at the same time:



Massari



Abbott

L. P. Massari has been promoted to assistant general sales manager, with headquarters in Memphis. In addition, Mr. Massari will continue to serve as urea product manager and export manager, a position he has held for the last five years. Mr. Massari came to W. R. Grace in 1955 from Pittsburgh Coke and Chemical Company.

E. C. Abbott has been named manager of retail ammonia sales for the Nitrogen Products Division, and will



Wilson



McCaslin

be located in Memphis. He joined W. R. Grace in 1955 as manager of Sangamon Grace Ammonia Company, Decatur, Illinois, where he directed retail ammonia sales in central Illinois. He operated his own anhydrous ammonia distribution stations in the Decatur area prior to joining Grace.

J. L. Wilson has been named to succeed Mr. Abbott as general manager of Sangamon Grace Ammonia Company in Decatur. Before joining Sangamon Grace in 1959 as assistant manager, Mr. Wilson was a distributor of anhydrous ammonia in Southeast Missouri.

M. M. McCaslin has been promoted to sales manager of the St. Louis District of the Nitrogen Products Division, succeeding Mr. Tilton. He will be in charge of sales for Kansas, Missouri, Southern Illinois, Southern Indiana and Kentucky. Mr. McCaslin has been a Special Sales Representative in the Midwest for Grace. His office will be in St. Louis.

W. Kerby Bowling has been made industrial relations manager of the company's nitrogen products division. He has been with Grace since 1956, and before that was director of employee programs at the Memphis plant of Ford Motor Co. He is an attorney.

#### Consumers Cooperative

The appointment of Allen Hoffman to manage the 8 million dollar anhydrous ammonia fertilizer plant being built at Hastings, Neb., by the Consumers Co-Operative association has been announced by Homer Young, president of the co-opera-

Mr. Hoffman has been with the co-op since 1948. He has previously served at the co-op's refineries in Coffeyville and Phillipsburg, Kans., and since 1954 has been assistant director of refining at the Kansas City headquarters.

#### Smith-Douglass

M. W. Mawhinney, manager of the Streator, Ill. plant of Smith-Douglass Co., Inc., has announced the appointment of Charles Richard Hoefs as fertilizer sales representative in southeastern Wisconsin.

Mr. Hoefs graduated with honors in June with a degree in soils from the University of Wisconsin. He was employed by the Extension Service during his last two years in college. He will serve Smith-Douglass Wisconsin dealers from 1112 West Sherman Ave., Fort Atkinson, Wis.

#### Lummus

Promotion of Thomas M. Bennett to the position of administrative manager of The Lummus Company's engineering development center at Newark, N. J., was announced by M. E. Brooks, vice president and director of engineering for the firm which designs, engineers and constructs processing plants.

Mr. Bennett joined Lummus as a research engineer in 1946, and, prior to his promotion, was manager of the pilot plant construction department of the engineering development center.

#### Armour

Charles H. Freeman, who was formerly in the manufacturing department of Armour Agricultural Chemical Company's Dallas, Texas, plant, has been appointed plant manager of the company's fertilizer plant in Columbia, South Carolina.

#### **Bemis**

Richard B. Windhorst, sales manager of the St. Louis sales division of Bemis Bro. Bag Company, has been appointed product supervisor for textile and waterproof products, with headquarters at the Bemis General Sales Department in St. Louis. He joined them in 1945.





Windhorst

Norman P. Uffmann, product sales manager of the St. Louis Specialty Department, succeeds Mr. Windhorst as sales manager of the St. Louis sales division. He came to Bemis in

The assignment of Mr. Windhorst. who will devote full time to sales supervision of textile and waterproof products, gives Bemis more concentrated attention in these product areas. Responsibility for these previously was assigned separately to two individuals, who also will now be able to concentrate more fully on the product lines they re-

Ronald Ramsay, secretary of the Bemis Bro. Bag Co., retired July 31, after a 35-year career with the company, principally as one of its top administrative and fiscal authorities.

#### American Cyanamid

G. F. Stegall's promotion to east central regional manager for American Cyanamid's Agricultural Division effective July has been announced by E. H. Smythe, Divisional marketing director. Mr. Stegall replaces Dr. M. J. Harvey who has been appointed animal feed products supervisor in the Division's New York office.

Mr. Stegall, formerly assistant regional manager for the southeast region, joined Cyanamid in 1947 as a sales representative and since then has held several managerial positions involving agricultural sales. He -Industry People...

will report to Divisional sales manager, J. H. Howard.

#### Central Chemical

Loyal E. Ramsey has been appointed manager of the Butler, Pa., plant of Central Chemical Corpor-



Ramsev

ation, Hagerstown, Maryland. Mr. Ramsey formerly was with the feed division of General Mills, Inc. Central Chemical manufacturers fertilizers, insecticides and feeds.

#### AMONG THE LAND GRANT COLLEGES

#### Arizona

Dr. George E. Hull, who has been acting director since last March when Dr. John W. Pou resigned, has been made director of the Arizona AES. He has been in extension service work since 1946.

#### Connecticut

Dr. Alberto Matta of Italy, holder of a NATO science fellowship, is at The Connecticut Agricultural Experiment Station for a six-month period to study wilt diseases of tomato and their control by chemotherapy, with special emphasis on Verticillium wilt.

Gerald S. Walton has been ap-

pointed to the Connecticut staff Director James G. Horsfall announces. He will succeed Ernest M. Stoddard who has retired after more than 51 years on the Station staff.

#### Mississipi

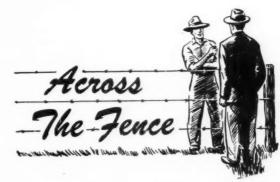
William M. Bost, district agent of the northeast district of Agricultural Extension Service, has been named associate director of Mississippi's Agricultural Extension Service.

#### North Carolina

Robert W. Shoffner has been appointed director of the North Carolina State College AES, succeeding Davis S. Weaver, who is retiring.

facts

help



University of Missouri soils scientists point out that alfalfa uses up more phosphate and potash than any other crop.

A four-ton per acre alfalfa yield removes 48 pounds of available phosphate and 180 pounds of available potash from the soil," these specialists report.

"It is good insurance to apply 25 to 30 pounds of boron per acre annually," the specialists say. "This can be applied already mixed in the phosphate and potash fertilizer."

Fast growing corn plants will eat up about two-thirds of their entire summer's ration of nitrogen in the six-week period of mid-July to late August. In this round-the-clock speed-up period when the plants are shooting tassels and forming ears, an acre of corn will use up an estimated 85 pounds of the 140 to 150 pounds of nitrogen needed all season long for a 100-bushel crop.

That is why a nitrogen side-dressing is so important on soils well supplied with phosphate and potash fertilizer.

#### **ARKANSAS**

Planters of Pine Bluff, manufacturers and distributors of Razorback brand mixed fertilizer and fertilizer materials, has announced the opening of Planters Agricultural Chemical Company. The new Planters company will manufacture liquid insecticides.

Heading the technical staff of the firm will be Dr. Paul J. Talley, one of the South's outstanding authorities in the pesticide field. Bill Dunklin is sales manager, while Bob Chaney and Leroy Brooks will assist in both technical and sales service.

Manufacturing facilities at the new plant include stainless steel electric heated kettles, filters, scales and other modern formulating equipment. A warehouse for raw material storage has already been erected, while product storage facilities and offices will be completed soon.

The plant will be operated in conjunction with and under the supervision of the Niagara Chemical Company.

Planters Agricultural Chemical Company is affiliated with Planters Fertilizer and Soybean Company and Planters Cotton Oil Mill, Inc., Arkansas companies operated by the four Dunklin brothers, George, Bill, Louis and Jim.

#### CALIFORNIA

Ortho Division, California Chemical, has put into operation its new warehouse at Ontario. It is a tilt-up concrete panel structure, 60 by 120 feet.

#### FLORIDA

Virginia-Carolina Chemical Corporation, has increased its annual capacity by 400,000 tons and incorporated several novel features, including closed-circuit television, into its operation at Nichols.

V-C has installed a new 10 foot by 160 foot rotary kiln at its processing center there. This is in addition to an eight foot by 110 foot kiln that V-C has been operating for many years.

V-C's new facilities include some novel features in automation and remote control of such operations as feed control, temperature and draft controls, firing rate and many related features.

A variable-speed feeder, controlled by a Weightometer, governs the flow of feed from a 1100-ton capacity surge tank.

From a compact, air-conditioned control room, the operator can make feed and firing rate changes as well as control oil flow, air flow,



and the temperature of the finished product as it emerges from the cooler.

A special closed-circuit TV set-up allows him to see inside the kiln without leaving the control room.

A conveyor belt takes the finished product from the cooler to a 100-foot high elevator, from which it is discharged onto a shuttle confeyor on top of product storage bins. About 15,000 tons of calcined rock can be stored in five bins.

There are automatic protective devices on raw feed level, product temperature, and exhaust gas temperature. When any of these goes into action, an alarm sounds in the control room and a light goes on telling where the trouble is.

All controls are interlocked in sequence. For example, an excessively high cooler discharge temperature will shut down the cooler. This in turn will shut off the kiln rotation and burner. When the rotation is stopped, the feed elevator and belts also stop.

**Crest Chemical Co.** is being formed at Clearwater by Gerald Tinney and will build a \$25,000 plant to formulate insect sprays and package fertilizers. They expect to be in operation this month.

#### GEORGIA

Southern Nitrogen Company, Inc., has announced a new \$5 million expansion program to meet the growing demand for its agricultural products in the Southeast.

The principal additional facilities will be constructed at Savannah, to increase anhydrous ammonia production at the Company's Savannah Works by 50 per cent—from 100,000 to 150,000 tons a year. It is estimated that the new facilities will be in operation by July, 1962.

"Within the next few months, we expect to start receiving ammonia at Tampa, Florida, under our long-term purchase contract with the Tennessee Corporation. This purchase contract will bring in 30,000 tons of ammonia a year, but our

increased requirements will be considerably higher. Additional construction is the best answer."

Southern Nitrogen is now expanding its nitric acid and ammonium nitrate production at Savannah at a cost of \$1.3 million.

Southern Nitrogen and its whollyowned subsidiaries—Florida Nitrogen Company, Tampa, and Millhaven Sales Corporation—last year reported net sales of \$11.7 million, a 23 per cent increase from the \$9.7 million of 1959. Net income in 1960 was \$1,253,000, a 50 per cent increase from the \$832,000 net in 1959.

The chemical company, which began operations in 1957, produces nitrogen solutions, prilled ammonium nitrate, ammonium nitrate limestone, aqua ammonia and urea.

During the past 10 years, nitrogen consumption has tripled in Florida and almost doubled in Georgia. These two states, together with North Carolina and South Carolina, comprise one of the largest nitrogen fertilizer markets in the United States.

About 90 per cent of Southern Nitrogen's present sales are in these four states. Mr. Riley said the expanded ammonia supply will permit the Company to market nitrogen materials in broader areas.

The total ammonia capacity of 180,000 tons a year at Savannah and Tampa, Mr. Riley said, will make Southern Nitrogen the third largest processor of ammonia east of the Mississippi.

The \$5 million construction program, which the Company is financing through a long-term loan from Mutual Life Insurance Co. of N. Y., includes substantial additional storage and service facilities at Savannah, Tampa, and locations to be selected in North Carolina.

Georgia Fertilizer. Valdosta, suffered severe damage during a recent windstorm, when a 400 foot section of roof was blown off. Fortunately the inventory was low at the time, instead of the \$2,000,000 which is on hand at peak seasons.

#### IDAHO

**Bunker Hill's** phosphoric acid plant at Kellogg, which had a temporary work halt, is back in operation. They have started engineering on a new 2,000-ton tank to increase storage capacity.

#### **ILLINOIS**

Dale Jensen Plant Foods Co. are in the process of expanding and reorganizing their services at Flanagan.

#### IOWA

Monsanto has broken ground for the 15,000 ton anhydrous ammonia terminal near Muscatine, reported here last month.

#### **KANSAS**

Cooperative Farm Chemicals Assn. whose new 120 daily ton nitric acid plant is being put up at Lawrence by Chemical Construction, are adopting a new technique in the erection of a 32,900-barrel tank in which to store ammonium nitrate solution. Reynolds Metals has informed us of this development which uses tapered aluminum panels, explaining that cost savings upwards of 5% are possible in the erection of tanks of more than 25,000 barrels. "Tapered aluminum plate eliminates metal where it is not needed" they report "and is erected in larger vertical panels, with less handling and welding."

The tank was engineered and designed by Chemico and is the third aluminum tank purchased since 1958 by CFC for ammonium nitrate storage. It was erected by Nooter Corporation, St. Louis specialists in this type of work.

#### LOUISIANA

American Cyanamid has announced plans for a \$3,000,000 expansion of its anhydrous ammonia production facilities at the Fortier plant near New Orleans.

According to Cyanamid president Kenneth H. Klipstein, the new production facilities will increase the plant's anhydrous ammonia capacity by approximately 40%.

Cyanamid's plans also call for more than doubling the anhydrous ammonia storage facilities at Fortier and providing additional railroad and tank car loading facilities.

Construction is expected to start this Summer and the expanded facilities are scheduled for completion in late 1962. In addition to anhydrous ammonia, Cyanamid's Fortier plant produces acrylonitrile, sulfuric acid, hydrocyanic acid and ammonium sulfate.

#### MISSISSIPPI

Mississippi Chemical, celebrating 10 years of successful operation, will double the present N capacity at its Pascagoula subsidiary, Coastal Chemical. At a cost of \$4,500,000 the Gulf Coast plant will be expanded another 200 daily tons, which will bring investment there up to \$18,000,000 and capacity up to 400 daily tons of nitrogen. The parent company represents \$21,000,000 of investment and was the world's first farmer owned synthetic N plant.

#### MISSOURI

St. Francois County Farm Supply Co., owned by Frank McDowell, are building a fertilizer plant at Bonne Terre which will be operated under a franchise from Monsanto. A companion plant will prepare ammonium nitrates for blasting purposes.

#### TENNESSEE

Farmers Chemical Association has been trying for two years to lease the idle Volunteer Ordnance Works at Chattanooga in order to produce nitrogen fertilizer there. At present the Government is paying Atlas Powder \$750,00 annually just to care for the idle facility.

Farmers Chemical wants to take a 40-year lease, invest some \$8,000,000 of its own money in adaptation of the plant, and will—naturally—take over the caretaker chore.

Senator Kefauver is reported to have written Army Secretary Stahr, pointing out that this transaction would keep the plant available for stand-by purposes in the event of war. Farmers Chemical is also interested in the also idle Army plant at Childersburg, Alabama.

#### **TEXAS**

Duval Sulphur and Potash is making good progress with its development program, for which \$3,000,000 has been set up for 1961. The work is mainly concentrated in Texas, Arizona and New Mexico. Of special interest to our readers is the sulphur development in Texas.

**Shell Oil** is building two natural gas processing plants in Texas. Of special interest is the Bryan's Mill plant which will recover 130 daily long tons of sulphur when it goes into production this Fall.

#### **VIRGINIA**

Miller Agricultural Supply Company has been established at Onancock to manufacture and deal in fertilizer, grain, feeds. Capital, \$50,000.

#### **AUSTRALIA**

Imperial Chemical Industries has announced plans for a \$14,000,000 plant in a suburb of Sydney which is expected to produce 63,000 annual long tons of ammonia, ammonium nitrate, methanol, nitric acid and urea—and the Australian government may raise the tarrif as protection against imports.

#### CANADA

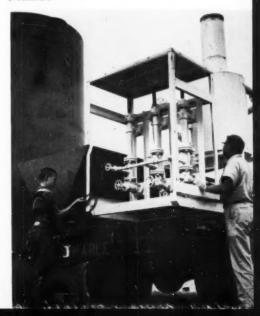
Sherritt Gordon Mines Limited announces an immediate start on the construction of a urea plant at Fort Saskatchewan, Alberta.

The plant will have a capacity of 35,000 tons per year and will produce urea in both the prill and crystal forms. Production is scheduled to start in the second half of 1962. Ammonia and carbon dioxide, the essential raw materials for the manufacture of urea, are available at low cost from the company's present operations at Fort Saskatchewan.

Cost of the plant was not given in the announcement, but it is es-

#### PORTABLE AMMONIUM PHOSPHATE REACTOR

PHOSPHATE REACTOR
This fertilizer plant on wheels manufacturers
8-24-0 solution is dubbed the "Thunderjug" because of its noisy, rumbling start-up, the pint-sized reactor is built onto a truck which permits fertilizer suppliers to move it about a wide application area. The Thunderjug was designed by Monsanto Chemical Company and produces the solution by continuous process at double the rate possible through batch production.



### -Around the Map...

timated to be around \$3,000,000.

All sales will be handled through Harrisons & Crosfield (Canada) Limited, 137 Wellington Street West, Toronto, exclusive sales agent for Sherritt fertilizer and chemical products.

#### INDIA

Sindri Fertilizer Factory is in the news again, with a sharp decline in production, has worn out a "great deal" and will need substantial renovation. Proposals have been made that it abandon coal as a fuel, because good quality coal (which Sindri needs for efficient operation) is in short supply and is likely to re-

main that way. The suggestion is that naptha become the fuel. It has also been suggested that gypsum not be transported all the way from Rajasthan and that Amjor pyrites, recently discovered, be used instead. A Dutch fertilizer expert has been invited to confer on these problems

#### **JAPAN**

Nihon Gas Kagaku Kogyo KK has awarded Chemical Construction the contract to change-over their plant at Niigata to the Chemico's exclusive new total recycle urea process. Present urea capacity will by nearly doubled, going to 150 daily metric tons. This is the third application of Chemico's total recycle urea process. It was first put into operation last January when a 50 ton per day urea plant went "on stream" at Lawrence, Kansas for Cooperative Farm Chemicals Association. This plant has been in continuous operation since January.

In April Chemico was awarded a contract to design and construct India's largest fertilizer plant in Trombay, utilizing the new urea process.

The process employs the principle of carbamate solution recycle, which facilitates the complete consumption of the ammonia and carbon dioxide used as raw materials.

A simpler operation that requires a minimum amount of equipment, it utilizes only a small quantity of water for the recycle of unconverted ammonia and carbon dioxide. This results in a high concentration of urea product before the evaporation stage.

#### Spencer Will Make, Market "Mr. Greeen"-30-10-0



A sample of 30-10-0, the newest solid fertilizer to be produced by Spencer Chemical Company. The prill-like structure of the material, which has been designated as "Mr. Greeen," is said to give it excellent storage and handling qualities.

Spencer Chemical Company plans have been announced for the con-

struction of a plant at the company's Jayhawk Works, near Pittsburg, Kansas, which will be capable of producing in excess of 50,000 tons yearly of 30-10-0.



"Mr. Greeen"

Spencer has applied for the trademark "Mr. Greeen", an elf-like character, for use in describing the new fertilizer which it will sell in both bagged and bulk form.

Byron Kern, vice president of Spencer's agricultural chemicals division, said that the decision to build the new plant follows successful test marketing this spring of 30-10-0 produced in temporary facilities at the Jayhawk Works. "Marketing this

spring confirmed our belief that 30-10-0 is a versatile material," Mr. Kern said. "It can be used for direct application to the soil or in the manufacture of various grades of mixed fertilizer either by conventional methods or by bulk blending."

Construction of the new plant at the Jayhawk Works is scheduled for completion in time for production during the 1962 fertilizer season. It will be located adjacent to the facilities for producing prilled ammonium nitrate and will use ammonium nitrate, phosphoric acid, and ammonia in producing "Mr. Greeen" with a Spencer-developed process.

Material produced by this process has a prill-like structure and is said to have excellent storage and handling qualities. In adding 30-10-0 to its product lines, Spencer will not alter the pattern of distribution of solid fertilizers through manufacturers of mixed fertilizer.

#### SOUTH AFRICA

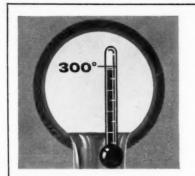
Windmill Fertiliser is to erect a fertiliser plant running around two million pounds sterling at Sasolberge, near the State-owned Oilfrom-Coal plant there. It will be built in stages—the first of which is to be financed by Windmill itself.

#### TAIWAN

Chinese Petroleum Corp. of Taiwan, Socony Mobil Oil Co. and Allied Chemical Corp. of the United States signed a preliminary agreement last month in Taiwan, to increase investment in the projected urea plant in Miaoli, North Taiwan to \$22.5 million of which the two American companies will put up 70 per cent and the CPC the remaining # 30 per cent, according to reports here.

The new agreement is said to supercede the original contract of Dec. 22, 1960 between Socony and CPC calling for an investment of U. S. \$16,500,000. Allied was later invited to join and negotiations were held to increase the investment, it was noted.

In addition to building a new urea plant in Miaoli with a capacity of 100,000 tons of urea a year as provided in the old agreement, the new contract reportedly calls for a complete set of ammonium-production equipment to be provided to the Nankang plant of the Taiwan Fertilizer Corp. to double the latter's production capacity. Raw material to be used will be the natural gas produced by CPC wells at Miaoli.



### PROTECTION . . . THAT REALLY WORKS!

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# FIBERCAST® epoxy pipe safely handles corrosive solutions to 300° temperatures

Rugged pipe carries 94% of known corrosive solutions. Available now in sizes from 2" to 8"

Heat and corrosion failures cost money. That's why it's important to consider the maximum protection you get with Fibercast epoxy pipe. Protection against premature fouling, generally attributed to operating temperatures and corrosive solutions. Protection against intermittent replacements, downtime—added costs for new materials and labor.

Years of actual operation in field use, prove Fibercast outlasts other kinds of pipe. Even more expensive metal pipe, or pipe with thermoplastic interior coatings cannot match Fibercast's resin rich interior.

#### Comparative Life Data

Report after report shows that Fibercast does outperform other types of pipe in terms of long service life. Basing Fibercast Grade J at 100% as unit life, comparable ratings show: Aluminum, 26%. Brass (RED), 74%, Rubber Hose, 21%. Stainless Steel (304-40), 31.1% Asbestos (cement C-100), 23.7%.

#### Handles 94% of Known Corrosive Chemical Solutions

Out of 338 common corrosive solutions, Fibercast safely handles 320, Not only does it provide superior resistance to corrosion, heat and pressure—it also has the outstanding ability to maintain the purity of the solutions it carries. The pipe has a glass-smooth interior with a Hazen-Williams C-Flow Factor of 147. This cuts friction losses. Encourages flow at intended pressures. Resists deposit

build-up. Dielectric properties ward off electrolytic action.

Fibercast owes its long life—and its special resistance to heat, pressure, corrosion, contamination, electrolytic action—to the exclusive way it is built. Fibercast is a centrifugally cast thermoset epoxy resin reinforced pipe with multiple layers of seamless braided glass fiber sleeving or especially woven glass fabric. Its body of woven glass fibers, impregnated with epoxy



FIELD USE PROVES RESISTANCE TO COR-ROSION . . 1 Plastic-coated steel nipple (right), used in saltwater supply well, corroded and lost strength after 3 months. Fibercast (left), used in same installation for 3 years still shows no loss of strength.

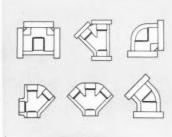
resin chemically cured at elevated temperatures provides remarkable ability to withstand high pressure and temperature in corrosive environments.

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#### Complete Line of Fittings

Fibercast offers fittings to solve any fitting problem. Besides a vast stock of standard sizes and types, Fibercast also designs and makes special fitting to meet individual problems. All have the same corrosion resistance properties of Fibercast Pipe and Tubing.



Get the full story on Fibercast Pipe, Tubing and Fittings. Find out how they can help you solve and combat specific problems relating to temperature, pressure and corrosion. Mail coupon today.

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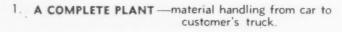
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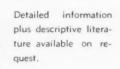
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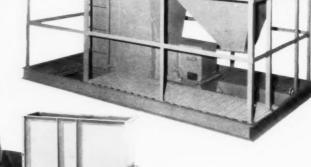
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That's how fast you can open a Bemis Multiwall with Bemi-Strip closure. Just grab the red tab and pull. The bag opens quickly, easily.

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#### Federal Chemical Acquires Farm Fertilizers, Inc.

Federal Chemical Company, a division of National Distillers and Chemical Corporation, has completed arrangements to acquire Farm Fertilizers, Inc. through an exchange of stock, according to a joint announcement by Jefferson D. Stewart, Jr., Federal president, and Richard E. Bennett, president of Farm Fertilizers. The company is a manufacturer of pelleted chemically combined fertilizers and complete liquid fertilizers with a major plant in Omaha and two smaller plants at Fremont, Nebraska and Webster City, Iowa.

Farm Fertilizers employs 100 office and plant workers. The present management of the company will continue to operate the business after the acquisition has been completed. Farm Fertilizers, Inc. has been in business 13 years and markets their products in the Iowa-Nebraska area under the well-established brand name "Bumpero Fertilizers."

Farm Fertilizers, Inc. will become an integral part of Federal Chemical, increasing to 10 the number of its plants. The acquisition will open two new states to Federal, which now will serve a marketing territory of 12 farm states in the mid-south and mid-west, ranging from the Gulf of Mexico to the Great Lakes.

#### V-C Buys Into Texas International

Virginia-Carolina has acquired better than a 20% interest in Texas International Sulphur, and has placed three V-C officers on the Texas International board. This transaction, direct with Texas International's treasury, gives V-C more than a million shares of the 3,500,-000 outstanding. Part of the agreement was a 10 year contract to buy sulphur from Texas International's Mexican subsidiary-and to supply technical and management assistance to Texas International during the 10 year period.

## Montecatini Buys Into U. S. Company

Montecatini is further expanding its U. S. interests.

The purchase of 200,000 shares, or about 4 per cent of the stock, of the Minerals & Chemicals-Philipp Corporation has been made by Montecatini and associates. James Deshler 2d, chairman of Minerals & chemicals-Philipp, announced that Piero Giustiniani, managing director of Montecatini, had been elected a director of the United States company at a special meeting.

# CHANGES

#### Interore Establishes Development Affiliate

International Ore & Fertilizer Corp., has set up at 500 Fifth Avenue, New York, an affiliate whose basic function is to supply the benefit of its world-wide offices and staff to those planning the use of raw materials in which Interore has an interest. The affiliate is called International Fertilizer Development Corporation.

While in no instance will the new concern engage in plant construction or operation, technical advice on construction, operation, remodeling, or the economics of fertilizer in the world picture is definitely part of its scope.

So, too, will advice on how to secure proper engineering services, how to get loans, information on new processes and techniques, materials, handling, storage and distribution. Cross-licensing operations also are likely to be one of its areas of activities.

Interore, because of its organizations throughout the world is uniquely situated to undertake this type of work on behalf of producers, engineering and manufacturing firms and others desiring representation on a global basis. Many firms -after the first flush of secrecy has faded from a new process-grant licenses to similar companies in other areas, thereby adding substantially to their income without extra capital outlay. At the same time, the firm securing the license gains increased efficiency or new markets without research on its own.

According to Christopher J. Pratt, vice-president in charge of operations for the new firm, Interore, through this affiliate, hopes to consolidate the reputation it has already established in the fertilizer and fertilizer raw material field—to the benefit of the producers it represents, as well as customers it supplies.

#### United-Heckathorn Now United Chemetrics

United Chemetrics is the new corporate name succeeding United-Heckathorn, Richmond, California, chemical manufacturer.

The new company name more appropriately describes the new corporate makeup of chemicals, real estate properties and electronics.

The properties and electronics business now merged into United Chemetrics were acquired by the sale of stock to Michael Grayson of Beverly Hills, California.

Mr. Grayson becomes United Chemetrics' controlling stockholder and board chairman. E. S. Heckathorn and L. R. Moretti, major stockholders in United-Heckathorn, have resigned as officers and directors and their stock has been purchased by the company.

In the reorganization plans of the company, the major fertilizer and airplane divisions of the company have been sold and the company plans are to consolidate and expand its pesticide business in the West. United Chemetrics has now authorized capital of 15 million dollars in its capital structure.

The officers of United Chemetrics are: Ivor R. Burden, president; Tom L. Moore, vice president & secretary; Philip Earl, treasurer.

Dorr-Oliver Buys Titlestad

Dorr-Oliver Incorporated, Stamford, Connecticut, has acquired the business and assets of Titlestad Corporation, New York, according to a joint announcement by D-O president Lloyd R. Boling and Titlestad president George B. Knecht. Nearly all of the Titlestad staff will move to the D-O world headquarters in Stamford in July, with Mr. Knecht continuing his present activities as manager of D-O's new Titlestad division.

Fire Engine Maker Enters Compost Field

With the purchase of Arizona Biochemical Corp., the big Seagrave Corporation, a ten million a year fire engine manufacturer, enters the fertilizer field. The chief asset of Arizona Biochemical is the right to market in the U.S. a Danish process for reducing municipal garbage to organic compost.

Rupulair Represents Hardinge Company

The Rupulair Company, Atlanta, has announced its selection as exclusive representative in Georgia and South Carolina of the Hardinge Company, York, Pa. Rupulair are located at 3120 Maple Drive N.E., Atlanta 5 Georgia. Phone: 233-3052.

Cyanamid Moves to Agricultural Center

The executive offices of American Cyanamid Company's Agricultural division will be moved to its new Agricultural Center on or about September 1, 1961, announced C. D. Siverd, general manager of the division.

Research and development groups formerly located at Cyanamid's Stamford, Connecticut, and Pearl River, New York, Laboratories will relocate prior to the September date. The division's marketing, manufacturing, technical service, accounting, personnel, and other service groups now located in New York City will move in shortly after the research and development personnel.

The new Center combines the most modern facilities for laboratory research and development work with practical field-testing conditions similar to those found on a well-run commercial farm.

#### Hooker Chemical Buys Old TVA Plant

The Hooker Chemical Corp. has announced the purchase of the old TVA plant and equipment at Godwin near Columbia, Tenn., and other properties from International Minerals & Chemical Corp.

S. A. Mattison, Hooker Chemical's director of public relations, valued the property at approximately \$750,000. He said the properties contain undeveloped phosphate reserves in the area of Maury, Hickman and Lewis counties.

At the same time, it was announced that Hooker has leased the mineral rights of other undeveloped phosphate reserves from the Phosker Realty Co. These properties are in Ashwood, Darks Mill, Shady Grove and Centerville areas, also in Tennessee.

"These transactions are a part of Hooker's expansion for the Columbia plant, which was announced in March, 1960," said Mr. Mattison. "At that time it was brought out that an additional furnace for reducing phosphate rock and auxiliary equipment for material handling would be installed. Work on these additions is well under way.

"The phosphate reserves acquired or leased assure a source of raw material for the expanded Columbia facilities. This plant supplies other plants of the division with phosphorous."

Some of the equipment at the former TVA plant probably will be reactivated for processing mined phosphate, Mr. Mattison said.

Spencer Acquires
Two Packaging Suppliers

Two Packaging Suppliers
Spencer Chemical Company announced July 14 the acquisition of all the outstanding common stock of two suppliers of packaging materials. Terms of the agreements were not disclosed.

Crystal Tube Corporation of Chicago and Flexicraft Industries, Inc., of New York City will become wholly-owned subsidiaries of Spencer. These companies design, print and make bags from purchased polyethylene, cellophane, laminates, and other flexible materials for packaging uses.

This move, Spencer president J. C. Denton said, is a planned diversification into the \$550 million a year flexible packaging industry. These two companies represent extensive experience and know-how in designing and converting synthetic flexible materials for packaging outlets. Spencer will gain firsthand information and data on the needs of the packaging industry. With this increased understanding, Spencer's technical group will be able to design more effectively new products for packaging end-uses, Mr. Denton said.

He said that Spencer has no plans to produce plastic films and the companies will continue to purchase their requirements for plastic films, cellophane, and other flexible constructions.

Baker Announces Address Change

H. J. Baker & Bro., Inc., materials brokerage firm, have moved to 733 Third Avenue, New York 17, N.Y. Phone: TN 7-0200.

#### Louisiana Farmers Form New Co-Op Organization

Officers have announced formation of the Gulf South Co-operative, a new wholesale supply co-op to serve Louisiana farmers with feed, seed, chemicals, fertilizers and other farm supplies.

President F. A. Graugnard Jr. of the Louisiana Council of Farmer Co-ops said 11 Louisiana farm coops joined in establishing the Gulf South co-operative.

The GSC will enter into the marketing of farm products, if found feasible.

Officers of FSC are Stebo Pearce of Evergreen, president; Otis Fontenot of Ville Platte, Joe Mouton of Perry and Harry Evans of Ringgold, vice presidents, and Charles O'Brien Jr. of Evergreen, secretary-treasurer and general manager.

The 11 initial farmer co-ops joining GSC are Avoyelles Farmers Coop, Bunkie; Ville Platte Rice Drier Co-op, Ville Platte; Vermilion Farmers Co-op, Abbeville; Tri-Parish Co-op, Slaughter; Lafayette Farmers Co-op, Carencro; First Hungarian Co-op, Albany; Macon Ridge Co-op, Sicily Island; American Rice Growers Exchange, Lake Charles; Evangeline Farmers Co-op, Ville Platte; Richland Farmers Co-op, Rayville, and the Ringgold Producers Association, Ringgold.

#### Swift Headquarters At New Address

Swift & Company have announced a move of headquarters in Chicago to 115 West Jackson Boulevard, Chicago 4, Ill., as of August 1.

#### Continental Consolidates New York Offices

Continental Can Company will consolidate its head office staff and all of its other New York City offices in a new building at 633 Third Avenue in late August and early September of this year. Certain of the company's division offices from outside of New York will also relocate there.

Flexible Packaging Division headquarters and its New York district sales offices will be located in the new offices.

#### Organic Soil Builders Offering Stock to Public

Organic Soil Builders, Inc., South St. Paul, Minn., plans to sell 250,000 shares of common stock to the public. The company was incorporated in December, 1959.

Principal business of the company is the blending and sale of fertilizers and organic soil builders. It holds the exclusive right to purchase and process all of the compost produced by the city's disposal plant. Facilities are maintained on the property of the Commission for drying and processing the material, most of which is waste matter from the South St. Paul Stockyards. The company has its business office, general warehouse and blending facilities at 41 W. Fillmore Ave. in St. Paul.

Organic Soil Builders, Inc., is undertaking nationwide distribution of its products. During the past year and a half, sales have been on a regional basis.

Officers of the company are Roger D. Swanstrom, president; Delmer C. Bunke, vice president and sales manager; Andrew B. Dygert, vice president; and Robert W. Dygert, secretary. Authorized capital of Organic Soil Builders, Inc., is 500,000 shares of common stock with a par value of 10 cents per share.

## **Ohituaries**

J. Harris Branan Sr., 78, former superintendent of the Virginia-Carolina Chemical Corp., Atlanta plant, who retired in 1951, after 44 years with the company, died July 5 in Atlanta, Ga.

Harold Gray Clayton, 70, head of the Florida Agricultural Extension Service, from 1947 until his retirement in 1956, died July 18 at Gainesville, following a lengthy illness.

Lewis Johnson, 33, secretary-treasurer, Tri-State Fertilizer Company, Burlington, Iowa, was fatally injured in an automobile accident near Holdredge, Nebraska, June 29.

**Frederick W. Koerner.** 67, executive secretary of Premier Peat Moss Corp., died June 21 of a heart ailment while on a business trip in Riviere du Loup, Quebec, Canada.

George Graham Miller, 48, of Toledo, Ohio, assistant general sales manager for northern and midwestern territories of F. S. Royster Guano Co., died of a heart attack July 19 while attending an annual company sales conference at Norfolk and Virginia Beach, Va.



SCREW CONVEYOR PROBLEM SOLVED WITH RUBBER FACED STEEL

Maintenance on this closed screw conveyor was costing \$400 every eight months for downtime, labor and parts. Pulverized, hot fertilizer would cake and pack solidly until the screw would twist and break. Building the conveyor housing of rubber faced steel plate made by the Cates Rubber Company solved the problem. The resiliance of the rubber facing prevented the accumulation of fertilizer dust. The dust did not get a chance to build up and pack. The vibration of the screw caused the rubber to give and crumble the accumulated fertilizer. Since the rubber covered trough was installed three years ago, the plant has operated 16 hours per day with no down-time for maintenance or repair.



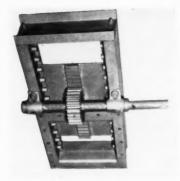
#### Fertilizers and Fertilizer Raw Materials

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#### **Rack And Pinion Gates**

Entirely new are dust-tight Finco Rack and Pinion Gates. All models are available in many standard sizes. Extra heavy duty construction is used throughout. The gates are easily opened and enclosed, permitting quick loading and unloading.

ing.
For literature and prices, circle number 1 on CF's Information Service card, page 39.

#### **Bulletin On Thickeners**

A new 24-page brochure, Bulletin No. 3002, describes the complete line of Dorr-Oliver Thickeners for chemical, metallurgical and industrial processing.

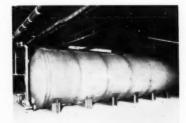
The new brochure describes and lists standard sizes and specifications for the Modern Thickener designs and mechanisms resulting from more than 50 years of continuous engineering and design experience since the original invention in 1906 of the Dorr Thickener. Single and multiple compartment thickeners are described having both center-drive and perimeter-drive rakes in a variety of configurations for unit operations in all the process industries.

Dorr-Oliver Bulletin No. 3002 is available free by circling number 2 on CF's Information Service card, page 39.

#### Fiberglass Plastic Tank

The 6,500 gallon J&H Fiberglass Plastic Tank is one of a new line for bulk storage or processing of corrosive liquids. The tank is translucent showing the gauged liquid level. The insulating qualities of the J&H wall material eliminate sweating and simplify temperature problems indoors or outdoors. They require no paint, resist corrosion and virtually eliminate all maintenance work. J&H Fiberglass Plastic is completely inert.

Complete information can be secured from Jones & Hunt by circling number 3 on CF's Information Service card, page 39.



## **SUPPLIERS**

report on
new equipment,
new materials,
new supplies,
new processes
... free literature

#### 'Facts' of Staying on Grade

B-I-F Industries has just issued 'It's A Fact' data on the problem of accurate, close control of pelletized fertilizer analyses. This new data, accompanied by pertinent bulletins, features B-I-F's Belt Gravimetric Feeder and Weighers. Selected from its complete line of equipment for dry and liquid feeding, B-I-F Feeders provide the accurate and economical solution to the problems of meeting state control requirements for plant nutrients, for lower production costs and for increased plant capacity.

The two-page sheet and accom-

The two-page sheet and accompanying bulletins contain illustrations, schematic diagrams of typical installations, dimensions and a thorough description of the operation, uses and advantages of B-I-F equipment for the feeding and control of dry fertilizer components.

For your free copy of the 'Facts' of staying on grade, circle number 4 on CF's Information Service card, page 39.

#### **Belt Conveyor Rolls**

A new bulletin describing its Series 156 line of medium-duty ball-bearing belt conveyor rolls is announced by Webster Manufacturing, Inc.

Both troughing and return idlers are presented in the bulletin, which lists dimensions and weights for 4" and 5" trough and return idlers for belts ranging from 18 to 36 inches in width.

Webster states that this line of idlers was developed for general purpose belt conveyor installations for materials handling duty widely required in industry.

required in industry.

All roller assemblies are of equal length and interchangeable for quick replacement and minimum standby stocks. Rolls are made of heavy gauge tubular steel with cast ends. Ball bearings are double sealed and require no lubrication after leaving the factory.

For Bulletin 456-10, circle number 5 on CF's Information Service card, page 39.



Easy Bag Opener

What is stated to be the first easy opening device to provide full-top or pour-spout opening of sewn open mouth and sewn valve multiwall bags has just been introduced by the Bag Division of St. Regis Paper Company. Called Grip-N-Rip, it is designed for both the industrial and consumer bags used for agricultural, chemical, food and rock products.

Fast, practical and low-cost, this new St. Regis easy opening feature employs a triple-strength filter tape in place of standard filter cord. The filter tape, which is sewn right over the regular bag top tape, provides a pulling tab for easy opening. It also improves bag appearance, according to the manufacturer.

pulling tab for easy opening. It also improves bag appearance, according to the manufacturer.

For full bag top opening—required most commonly for industrial multiwall packages—the filter tape is simply pulled away from the top of the bag. The regular bag top tape, which is held in place by the same thread, is then free, and the

is simply pulled away from the top of the bag. The regular bag top tape, which is held in place by the same thread, is then free, and the bag is completely open.

For pour spout opening—ideal for consumer packages of lawn foods, seeds, etc.—the regular bag top tape is pasted along the top of the bag for a few inches at one end to allow for limited opening. After the filter tape has been pulled away (the same as it is for full opening), the unglued section of the regular tape is folded back and the pour spout is formed. If all the material in the bag is not used at one time, the tape can be folded back over the spout and clipped in place, making it easy to store and re-use the bag.

to store and re-use the bag.

Until the development of Grip-N-Rip, red looper thread was the only built-in method used for opening sewn bags. Red looper thread requires complete unravelling, often to a distance greater than arm's length. Grip-N-Rip is never longer than the width of the bag.

For detailed information on Grip-N-Rip, circle number 6 on CF's Information Service card, page 39.

#### Modern Sulphur Mining

Texas Gulf Sulphur Company, leading producer of crude sulphur as mined by the Frasch hot water process, has prepared a revised edition of 'Modern Sulphur Mining' which was last published several years ago. This edition updates statistical data and latest developments in both production and distribution of this essential commodity.

in both production and distribution of this essential commodity.

Copies can be obtained by circling number 7 on CF's Information Service card, page 39.



#### New Poly Insert Sleeve Bags

A new contribution to valve bag design, tradenamed the 'Chase Poly Insert Sleeve,' is now commercially available from the Chase Bag Com-pany in a complete line of sewn and pasted end multiwall shipping sacks.

pasted end multiwall shipping sacks.

Key construction feature of the
new line is a polyethylene-film
sleeve, firmly fitted into the valve
notch and extending inside the bag.
Flexibility and self-cling characteristics of the polyethylene permit a
tighter, self-sealing closure. The result is claimed to be improved bag
performance during automatic packperformance during automatic packing operations, shipping and storage. Photograph shows inside of valve,

unstitched and spread open, revealing construction of new Chase Poly Insert Sleeve. Lower right of photo shows outside of valve notch with tape sewn in place.

Specific advantages include considerable reduction both in siftage of fine materials and in contamination from outside. Because costly product waste is minimized during the filling operation, bags stay cleaner and packing areas are kept rel-atively dust free.

In many cases, the positive closure sleeve minimizes the necessity of packaging in excess of designated weights to compensate for leakage during shipment.

Other performance extras offered at a savings in cost are: easy place-ment of the bag on the filling tube; elimination of need for a tuck-in sleeve; and, for the first time, full moisture protection in the sleeve area.

The Poly Sleeve has been successfully field-tested in shipments of fertilizers, rock products, salt, sugar and iron powder. Tests with other products are currently in progress

For additional information on the Chase Poly Insert Sleeve, circle number 8 on CF's Information Service card, page 39.

#### Trucks: Lease or Buy

A second edition of its popular study analyzing the merits and de-merits of truck fleet leasing plans

compared with company ownership has just been published by the Foundation for Management Research.

It is entitled: Truck Fleets: Lease or Buy? An Analysis of Truck Transportation Costs. The 32-page study has been revised to include data from a new survey covering fleet operation practices of more than 4,500 corporations, as well as leasing plans offered by national truck leasing organizations.

Four complete tables are included in the study, which analyze costs of company-owned fleets and compare those costs with leasing. The study develops a 'cutoff point' to aid financial officers in determining when it is more profitable to lease truck fleets and when it is more profitable to own them. The study also analyzes various lease plans, pointing out advantages and disadvantages of each.

Single free copies of Truck Fleets: Lease or Buy? may be obtained by circling number 9 on CF's Infor-mation Service card, page 39.

#### New Loader Catalog

A new catalog of four wheel drive loaders has been released by the J.

I. Case Company.

Designed for easy performance and application reference, the catalog lists specifications on each of



the three models manufactured by the company. The sixteen-page, full color, illustrated booklet is availcolor, illustrated bookiet is able by circling number 10 on CF's able by circling number and page 39.

#### Vibrating Screen Tensioner

A new device, providing greater flexibility in the operation and maintenance of wire cloth and plate decks on vibrating screens, has been developed by Allis-Chalmers.

The new device makes it possi-

ble to change screen decks in only a fraction of the time formerly re-quired and permits tensioning of cloth while the screen is in operation.

A 11/4-inch adjustment on each side of the deck, 2½-inches over-all, is provided by the new fastener. One size fits all sizes and types of vibrating screens, greatly simplifying stocking of parts.

The new device, which assures quick tensioning, reduces maintenance and lowers operating costs, is available on all new Allis-Chalmers vibrating screens, as well as replacements for those already in operation.

For detailed information, circle number 11 on CF's Information Service card, page 39.

#### New Pressure Packer

New ease, speed and accuracy for new ease, speed and accuracy for packers of powdery, flaky, granulated or pelleted materials, are benefits claimed for the new Stok-Aire aid pressure packer just introduced by H. L. Stoker Company, manufacturer of specialized packing equipment.

The new Stok-Aire obsoletes gravity packing methods for these 'tough-to-handle' materials and gives the packer faster bag filling, tighter bags with either valve or open mouth bags or drums.

The Stok-Aire also combines a space saving pressurized delivery system with an electronic weighing system with an electronic weighing system for true weight accuracy. By use of a pressure chamber, head-room for the new unit is reduced to a maximum of 10 feet 8 inches. An optional pressure chamber allows installation with headroom of only 87½ inches. Floor width for the streamlined dual unit is only 38 inches.

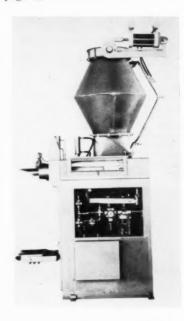
The Stok-Aire's new true-scale beam features a 100-to-1 scale leverage which provides sensitivity of as little as 1/4 ounce actuation of an as fittle as 4 ounce actuation of an electronic sensing capacitor, which functions without direct connection or sparking. With its over-under weight indicator and easy electronic trimming, no check weighing is necessary for user of the Stok-Aire, according to the manufacturer.

The packer is designed from the operator's point of view with all

pressure gauges, valves and electri-cal controls readily seen and easily reached.

No lubrication and easy clean-out are also features of the new air pressure packer. All electrical controls are in a dust tight enclosure. It is designed for 20 to 250 pounds packed weights. A Settler is available as optional equipment for those packers requiring it. packers requiring it.

Full detail of the Stok-Aire are illustrated in a two-color 4-page bro-chure available by circling number 12 on CF's Information Service card,





#### Freight Car Vacuum Cleaner

A heavy duty portable vacuum cleaner especially adapted for box

creaner especially adapted for box car cleaning has been introduced by The Spencer Turbine Co.

The unit has application wherever there is to be a change in the type of cargo being shipped. In preparing freight cars for shipment of fertilizers, food products chemicals tilizers, food products, chemicals, etc., for example, vacuum cleaning discourages rodents or vermin, and

discourages rocents or vermin, and guards against contamination.

The ruggedly constructed cleaner is powered by a 34 H.P. gas engine and develops vacuum powerful enough (7" Hg) and handles a volume of air sufficient to permit its simultaneous use by two operators. Two inch diameter hoses are recommended for handling heavy accumulations; 1½" diameter hoses easily cope with the more routine clean-

ing tasks.

Complete information may be obtained by circling number 13 on CF's Information Service card, page 39.

#### Horizonal Mixers Catalog

Availability of a twelve page il-lustrated technical catalog on horizontal mixers for free flowing, granular materials has been announced by Young Machinery Company. The new catalog combines both Young and Robinson mixer designs.

Design, technical and dimensional data are included for mixers ranging in capacity from ½ to 500 cubic feet. The catalog covers laboratory feet. The catalog covers laboratory models and production units; standard, trowel type and special units with adaptations for heating, cooling, drying or liquid additions; low pressure and high pressure steam or baffled water jackets.

Copies of bulletin M/1058A are available by circling number 14 on CF's Information Service card, page 39

Pneumatic Phosphate Handling

Monsanto Chemical Company's Inorganic Chemicals Division has announced publication of a booklet describing the pneumatic bulk trans-port, storage and handling of phosphate products.

The booklet lists the various costcutting factors resulting from bulk transport and handling, describes a typical system and gives a cost and savings case history of an actual installation.

In addition, it describes equip-ment needed for such a system, including storage facilities, piping, air venting, conveying and weighing.

The booklet is obtainable free by circling number 15 on CF's Information Service card, page 39.

pH Meters

Features, applications, and specifications of the Beckman Model G and GS pH Meters are reported in a new descriptive bulletin published by the Scientific and Process In-struments Division of Beckman Instruments, Inc.

The Model G, the most widely used pH meter in the world, is used for research analyses, routine pH and millivolt determinations, and quality control applications.

Specifications of the Model G include: accuracy, ±0.01 pH; repeatability, ±0.01 pH; pH range, 0-13 pH; millivolt range, 0-±1300 mv.

Beckman's Model GS pH Meter is a modification of the Model G,

employing two additional operating controls to provide 20 times greater meter sensitivity and an eight-fold increase in readability.

The exceptional sensitivity and accuracy of the Model GS—to an accuracy of ±0.0025 pH—make the instrument especially practical for precision research applications, direct trace concentration analyses of such anions as chloride and fluoride, and for oxidation-reduction potential measurements

Specifications of the Model GS include: accuracy, ±0.0025 pH; repeatability, ±0.0025 pH; pH range, 0-13 pH; millivolt range, 0-±1300

For a copy of Bulletin 719-B, giving further information on the Beckman Model G and GS pH Meters, circle number 16 on CF's Information Service card, page 39.



Tree Fertilizing, Watering 'Edco Water Drill' is the name of a new garden-hose attachment for watering and fertilizing trees shrubbery. The four-foot shrubbery. The lour-look drin, shaped much like a walking cane, features a scientifically designed non-clogging jet nozzle. Fabricated from heavy aluminum tubing, it from heavy aluminum tubing, it penetrates the soil at a rate up to four feet a minute, without hand pressure, even in clay, using only normal faucet water pressures. After penetration to the desired

depth, the water pressure may be reduced to deep-water trees and shrubs, or the drill may be with-drawn and fertilizer placed in the one-inch-diameter hole for feeding

of the trees and plants.

The manufacturer, Eynon-Dakin
Co., is seeking sales agents, distributors and dealers for the new accessory

For descriptive literature on the Edco Water Drill, circle number 17 on CF's Information Service card, page 39.

Impingement Scrubber Catalog

New catalog describes Sly's new Impinjet® Scrubbers for wet cleaning, absorption or cooling of gases resulting from a wide variety of industrial processes.

The catalog includes a detailed description and illustrations of the that is the key to high cleaning efficiency with minimum power and liquid consumption. A cutaway drawing shows the flow of gas through the scrubber.

Dimensions are given for standard single and multiple stage units in capacities of 1,000 to 38,000 CFM.

A copy of Catalog 150 is available by circling number 18 on CF's Information Service card, page 39.

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#### -Supplier News ...

#### Level Control Instruments

A new line of level control instruments, including electric and pneumatic transmitters that also provide indication and can perform alarm and 'on-off' control functions, has been introduced by the Brooks Instrument Company.

The instruments can be supplied

in special materials for toxic, corrosive, and high-pressure (to 40,000 psi) services. They are available with buoyant and displacer floats for liquid-or interface-level or spe-

cific-gravity applications.

Brooks' new level transmitters use a new type of transducer, the magnetic position converter, that gives them a number of unique capabilities. Being able to provide any or all of the additional functions of indication, alarm, and 'on-off' con-trol in a single instrument is one. Another is the ability to transmit level measurements from a buoyant as well as displacer float. Their utility is further increased by a buoyant-float range of 0 to 24 inches, nearly five times the range of other level instruments that work directly from buoyant floats.

Displacement-type models an unlimited range within a 3-inch float travel. The displacer floats can be used for either level or spe-

cific-gravity measurements.

The transmitters, catalogued as the MPT series, can be supplied for either electric or pneumatic transmission. Both are compatible with most receiving controlling instru-ments currently in use.

Complete information on all Brooks' new level control instruments is published in Bulletin 830, available by circling number 19 on CF's Information Service card, page 39

#### New Checkweigher Literature

The complete line of automatic in-Division of Toledo Scale Corpora-tion, is fully illustrated in a new colorful eight-page booklet.

This new literature is packed with

informative material on the accuracy, checkweighing speed, and weight ranges of each Toledo Checkweigher model . . . as well as pertinent construction data. Various industrial applications of these checkweighers are illustrated with instal-

lation photographs.

This booklet explains Toledo checkweigher accuracy in terms of

'zone-edge tolerance,' which is a positive means of expressing check-weighing accuracy . . . that is, the consistency with which a machine chooses between adjacent weight zones when the package weight falls in the break-even area between weight zones. The narrower this area is, expressed in fractional ounces, the greater the checkweigher accuracy and reliability through-

out a given machine's weight range. For more information on 'zoneedge tolerance' and Toledo Check-weighers, request Form 2968a by circling number 20 on CF's Infor-mation Service card, page 39.

#### Pneumatic Vibrator

The Branford Company has announced two new models (11/4" and 3") in their increased efficiency line 'Vibrajust' Pneumatic Vibrators, and at the same time is introducing an outstanding development in their 'Vibrajust' Impact-Frequency Adapter. The latter gives full range control of the vibrator's frequency as well as impact control.

For the first time, and with a standard package, the impact and



frequency of pneumatic vibrators are controllable. With the more efficient, lighter Vibrajust Vibrators operated by the Vibrajust Impact-Frequency Adapter, the usefulness and flexibility of pneumatic vibrations of the vibrations of mostly opening. tion systems is greatly enhanced. Close control of input compressed

air allows the vibrator to be adapted to the most efficient vibrations for flow of materials or control of equipment on which the vibrator is used. Its light weight and small size

allow portability, and it can be mounted on a flat surface.

For further information on the Vibrajust 1¼" and 3" Pneumatic Vibrators and on the Vibrajust Impact-Frequency Adapters, circle number 21 on CF's Information Service card, page 39.

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#### BUSINESS REPLY CARD

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Information Service Bureau

Commercial Fertilizer and Plant Food Industry

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Atlanta 8, Georgia

#### Automatic Flame Photometer

An automatic flame photometer which eliminates sample preparation in sodium and potassium analyses has been announced by Tech-

nicon Controls, Inc.

The new flame photometer, developed for both clinical and industrial use, represents a major advance in analytical instrumentation. Integrated with the Technicon® AutoAnalyzer®, it permits continuous, automatic, and uninterrupted analyses of sodium and potassium simultaneously from the same sample. Equally important, it cancels the effects of environmental variations. Units are available to provide individual sodium or potassium analyses.

Contrasted with the conventional method, the new Technicon system exhibits tremendous advances in accuracy as well as the saving of time and labor. It will deliver up to 40 sodium and potassium determto 40 sodium and potassium determinations per hour, with no human intervention at any stage. Sodium determinations are made with a reproducibility of ±0.75 mEQ.NA/1; Potassium determinations show a reproducibility of ±0.15 mEq.K/1. This precision is made possible by the sophistication of the control scheme and reliability of components. ents.

With the integrated unit (the AutoAnalyzer and the Flame Photometer), sample preparation has been entirely eliminated.

According to the company, the en-

tire flame photometer unit is almost

maintenance free.

For further information on the Technicon AutoAnalyzer and Flame Photometer, circle number 22 on CF's Information Service card, page

#### **New Self-contained Rotameter**

The Brooks Instrument Company, Inc. has developed a new line of flow-rate controllers for purge and other flow control and indication

applications. Designated as Series 8800, the instruments are completely self-contained. A single unit includes the rotameter mounted on a needle-valve-operated flow controller. The controller has an internal diaphragm assembly designed to give a constant pressure differential for any valve setting. Because of the unit con-struction, all external piping has been eliminated. The Series 8800 controllers are much more compact than models previously available. Indication of diaphragm failure is positive. The integral rotameter instantly reflects diaphragm rupture

or leakage.
Brooks' Series 8800 rotameter/ controllers are available in several sizes ranging in flow capacities from 0.01 GPH (water) or 0.2 SCFH (air) to 12 GPM or 48 SCFM. Pressure rating depends on materials of construction; 250 psig for brass models; 500 psig for 316 stainless steel modes. (These materials are stand-ard; others are available.) Dia-phragms can be furnished in any of several material combinations, to permit user selection for optimum performance under particular tem-perature and corrosive conditions. Detailed information on Brooks'

Series 8800 controllers may be obtained through Bulletin #148 by circling number 23 on CF's Information Service card, page 39.

Sonic Plastic Bag Sealer

A new ultrasonic sealer for welding plastic film without adhesives, chemicals or high voltage has been announced by Ultra Sonic Seal, Inc., a division of Kleer-Vu Industries.

Among applications cited for the provided in the process of feet.

new device is the packaging of fer-tilizers in polyethylene, PVC and PVA bags. The manufacturer claims that the unit seals the film through oil, chemicals and other contami-nants, handling film from ¼ mil to 100 mils thickness at speeds up to 100 feet a minute. Modifications of the standard sealing unit can be in-corporated as a sealing station in

integrated packaging operations.

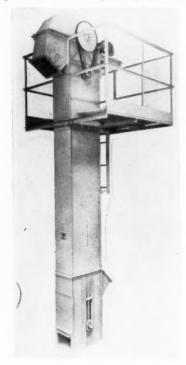
For additional details on the Ultra Sonic sealer, circle number 24 on CF's Information Service card, page

#### All-New Bucket Elevator

Another advance in material handling is announced by Universal Hoist Company, the introduction of an all-new Utility Bucket Elevator, the Model U2.

The U2 is designed specifically for fertilizers, range pellets and all hard-to-handle materials. Hot abrasive, heavy, corrosive and hygro-scopic materials, as well as wet, lumpy materials that tend to pack and build up, are best handled in the U2. Maximum lump sizes up to 2½" diameter can be handled in capacities from 200 to 2,000 cu. ft. per hour. The U2 is offered in two bucket sizes and in a variety of speeds.

Suitable for inside or outside installation, the U2 is of extra heavy, single legging type construction. Many advanced features are incorporated in the design and all stand-



ard accessories are available.

Manufacture on an assembly line basis insures highest quality and lowest cost, as well as making these new units available for immediate

delivery from stock.

New literature and prices are available on the U2 Elevator and accessories by circling number 25 on CF's Information Service card, page

#### Mobile Fertilizer Unit

To supply liquid fertilizer blending plants with their base material (8-24-0), Barnard and Leas has recently introduced a Mobile Fertilizer Unit. This is mounted on a 30 ft., completely enclosed trailer-custom-



designed by B & L's affiliated company, Transport Trailers, Inc. Bunking facilities for two are at forward end of trailer.

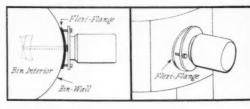
Special features include a hose carrying rack under the trailer—and quick-coupler attachments that make it possible for the equipment

to be operating within minutes after it has reached its destination.

Capacity of the equipment—which includes B & L's Autobatch, Cooler and Liqualizer units-is sufficient to process up to 30 tons of 8-24-0 per hour. The operation is continuous. Therefore, a tank car of acid can be processed within a short time, making it possible for the Mobile Ferti-lizer Unit to move on to another blending operation within the same

Blenders, such as plants equipped with B & L Liqualizer units, benefit two ways. They save freight—and, since substantial storage is required, are assured of an ample sup-ply of 8-24-0 to meet their needs. ply of 8-24-0 to meet their needs. B&L also manufactures a mobile convertor for producing the aqua ammonia used in the processing of

For additional details, circle number 26 on CF's Information Service card, page 39. -Supplier News...



Simplified Bin Level Attachment

A simple yet strong and highly effective "Flexi-Flange" has been developed by Convair for use in attaching bin level indicators to all types of curved surfaces. The Flexi-Flange can be used on round bins, hoppers, and chutes as small as 6 inches in diameter. No special adaptors or time consuming build-up materials are needed.

The new aluminum Flexi-Flange is designed primarily for use with standard and heavy duty models of Bin-Vue level indicators and controls produced by Convair. For special applications, Type 304 stainless steel plates are also available. The aluminum Flexi-Flange is priced at \$10; a stainless steel version is \$20.

For further information, circle number 27 on CF's Information Service card, page 39.

Moisture Tester Brochure

A newly developed Commodity Moisture Tester, precision engineer-ed and designed as a self-contained apparatus for use in measuring the moisture in fibers, powders, grains and other granular materials, is described in a new bulletin published by the United States Testing Company's Instrument and Apparatus Division.

The Commodity Moisture Tester finds broad use in both production and laboratory applications. One of the few moisture testers capable of approaching the accuracy of labor-atory requirements, the Commodity Moisture Tester performs a complete determination in less than 30 seconds. A large sample chamber reduces the number of tests re-quired to get representative mois-ture values. This chamber is removable and serves as a when used with grains, powders, and other loose materials.

Copies of the bulletin describing the new Commodity Moisture Tester may be obtained by circling number 28 on CF's Information Service card, page 39.

Soil Testing Bulletin

A new 12 page bulletin on spe-cialized soil testing equipment has been issued by Soiltest, Inc.

The bulletin is planned for those concerned with the testing of soils in agriculture, irrigation, soil con-

servation, landscaping and forestry.
Illustrated and described are
samplers, soil thermometers, chemical testing kits, conductivity test apparatus, soil color charts, mois-ture instruments and classification devices

The listing also include a complete basic laboratory for soil testing, scales and balances, and electronic instruments for determination of the

chemical properties of soil.

For a copy of Bulletin C-117-61, circle number 29 on CF's Information Service card, page 39.

# Dealer Training Services Exclusively for Fertilizer Selling

NOW – Full Orbit embraces an entirely new and bigger area of customer service. This service is specifically designed to help you increase your sales through your dealers. It includes not only assistance for your own salesmen but assistance for your dealers' salesmen. Ask your IMC representative to show these services the next time he calls.



NEW! Dealer Training Meeting Package — This is a detailed description of how to conduct a successful dealer training meeting. It provides step-by-step information on proven sales techniques and offers favorable management assistance to the dealer. A strip film and scripts are specifically tailored to more profitable sales.



NEW! Sul-Po-Mag Flash Cards — An excellent pocket-size item which your dealers may use as a reminder of Sul-Po-Mag's unique advantages. A set of 20 cards gives your dealers' salesmen the entire Sul-Po-Mag story in a convenient manner.



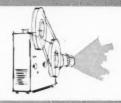
NEW! Prospecting Procedures — Systematic procedures for analyzing your fertilizer market, securing new prospects, and then developing these prospects into new customers.



Let's Makes Sales Today — A detailed procedure for increasing fertilizer sales now. It includes telephone selling technique, using credit as a sales tool, and interview-canvassing procedure that practically guarantees successful results.



NEW! Maximum Yield Forms — A powerful but easily worked tabulation which your salesmen may use with your dealers to determine profit potential in the dealer's marketing area. It dramatically illustrates the maximum benefits offered the farmer.



NEW! Training Film List - Contains a listing of important films compiled from the library of IMC, U.S. Department of Agriculture and the National Plant Food Institute. Each of these films has been selected for its pertinence to the sales problem.



Farmer-Dealer Meeting Kit — The proven practical, planned way for holding successful farmer-dealer meeting. Step-by-step description includes programming, location, notification, equipment requirements, product information, group participation techniques, and other important subjects.



How to Get These Dealer Training Services
— Simply ask your IMC representative or write direct to:

Mr. E. C. Horne, Sales Manager Materials Department International Minerals & Chemical Corp. Skokie, Illinois

INTERNATIONAL MINERALS & CHEMICAL CORPORATION

Agricultural Chemicals Division, Materials Dept. • Administrative Center • Skokie, Illinois



# Association Activities

#### Mississippi Council Meets August 10-12 at Biloxi

Mississippi Soil Fertility and Plant Food Council will meet at the Buena Vista Hotel in Biloxi, Mississippi August 10-12 for their second annual convention, according to Mike R. Blouin, Jr., Council president, who stressed that this year's program is planned to deal with practical, everyday problems relating to the use of fertilizer on Mississippi's soil and for Mississippi crops.

The meeting gets under way Thursday afternoon, with presentations on soil testing, and cotton, corn, soybean, and pasture fertilization by the Extension agronomy staff at Mississippi State University. Then, following a 4-H Method Demonstration on fertilizer, an open discussion is planned on the recently initiated Mississippi Soil Fertility Program.

A native Mississippian and now U.S. assistant secretary of agriculture, Dr. Frank J. Welch, will be the featured speaker on Friday morning. Appearing on the program with him will be A. P. Gates, vice-president, Virginia-Carolina Chemical Corp., Richmond, Va.; and R. E. Spivey, Jr., assistant to the president, Federal Intermediate Credit

Bank of New Orleans.

Saturday morning will be devoted to conducting the business of the organzation, including election of officers and adoption of goals, objectives, and resolutions.

Entertainment and activities will be provided for all members of the family, making this a "family-type" convention of dealers, fertilizer manufacturers, salesmen, agronomists, and others interested in the fertility of Mississippi's soils, according to G. A. Triggs, chairman of the publicity committee.

#### Hardware Show Provides Bus Service

As in the past, the National Hardware Show will provide bus service in Chicago, between McCormick Place and hotels and motels during its exhibit October 2, 3, 4, 5, 6, 1961.

A 20-minute schedule will be maintained from hotels each day, starting at 9:00 A.M. until the close of the show.

Over 1,000 manufacturers will be

exhibiting their products at the National Hardware Show and over 10,000 people will be required to set up and maintain these exhibits. This number of people, in addition to 45,000 buyers, who are expected to attend, will press into service every possible bus available. Special bus loading platforms are being established at McCormick Place for the convenience of both the exhibitors and buyers.

#### Guither Wins Ag Communications Award

Harold D. Guither, Assistant Extension Editor, College of Agriculture, University of Illinois, at Urbana, July 24 was presented the "Agricultural Communications



Guither

Award," sponsored by the American Association of Agricultural College Editors and the National Plant Food Institute, at a special luncheon ceremony at the National 4-H

Center, Washington, D. C.

Announcement of the award was made by Elton Tait, Assistant to the Director of Extension, in Charge of Training, Pennsylvania State University, University Park, President of AAACE, in connection with the 45th Annual Convention of the Association.

Paul T. Truitt, President of the Institute, presented to Mr. Guither a scroll signed by the national judges, together with a check for \$500 to be used for advanced professional training in agricultural communications.

The annual award was presented to Mr. Guither "in recognition of the most notable growth in competence and achivement in agricultural communications during the year 1960," in competition with other members of AAACE at land-grant colleges in the United States.

# Chemical Control Annual Conference

The National Plant Food Institute has announced that its annual conference on Chemical Control Problems this year will be held on Wednesday, October 25, at The Woodner Hotel, Washington, D. C. Details of the program are now being worked out.

#### GPFES Meets on Demonstration Farms

As another boost to the "Big M" pasture program of the Georgia Extension Service, the Georgia Plant Food Educational Society this year held its summer meetings on "Big M" demonstration farms in six areas of the state.

The farms selected are complete in the fullest sense of the phrase "demonstration farms" with complete management programs developed with the aid of extension agronomists, farm management specialists. Each has a complete grassland and livestock management program, including detailed pasture records.

Discussions at each point included fertilization, lime, management, live-stock, silage and weed control—in addition to a tour of the farm for a study of the "Big M" program.

#### **Industry Meeting Calendar**

DATE	EVENT	LOCATION	CITY		
Aug. 16-20	Canadian Fertilizer Association	Manoir Richelieu	Murray Bay, Que.		
Oct. 4-6	Southeastern Fertilizer Conference	Biltmore Hotel	Atlanta, Ga.		
Oct. 12-13	Northeastern Fertilizer Conference	Schine Inn	Chicopee, Mass.		
Oct. 16-17	Fertilizer Safety Conference	Pick-Congress Hotel	Chicago, III.		
Oct. 25	Chemical Control Conference	Woodner Hotel	Washington, D.C.		
Oct. 25-26	Fertilizer Control Officials	Woodner Hotel	Washington, D. C.		
Oct. 30-Nov.	1 National Fertilizer Solutions Assn.	Edgewater Beach Hotel	Chicago, III.		
Oct. 30-Nov.	1 Official Agricultural Chemists	Shoreham Hotel	Washington, D. C.		
Nov. 2-3	Pacific N.W. Fertilizer Assn.	Gearhart Hotel	Gearhart, Oreg.		
Nov. 8-10	Fertilizer Industry 'Round Table'	Mayflower Hotel	Washington, D. C.		
Nov. 12-14	California Fertilizer Association	Jack Tar Hotel	San Francisco		

Gidney Urges Industry Support of 4-H Club

Dean R. Gidney, vice president of the Potash Company of America, Washington, D. C., has urged the fertilizer industry to continue its support of the 4-H Club movement, "helping to establish leadership in our younger generation."

Mr. Gidney is chairman of the fertilizer industry campaign of the National 4-H Sponsors Council, the fund raising arm of the 4-H Foundation. This is the third year he has taken this leadership position.

Gidney emphasized three areas of the 4-H Foundation's "Service to Youth" program that can be expanded: citizenship education, leadership development, and the International Farm Youth Exchange (IFYE).

Last year nearly 1,200 4-H members, leaders and professional workers participated in citizenship and leadership programs of the 4-H Foundation. At the same time, the IFYE program exchanged 101 U.S. young people from 41 states and 99 foreign exchangees from 42 different countries.

The National 4-H Club Foundation, with offices in the Nation's Capital, is a privately supported, non-profit, educational institution whose programs are designed to complement and assist the 4-H Club movement.

#### Pac N.W. told of Protein Gain

The protein content of wheat is increased in direct relationship to the rate of nitrogen applied. So said F. E. Koehler of Washington State University at the recent 12 annual conference of the Pacific Northwest Plant Food Association. U. S. Plant Soil and Nutrition Laboratory scientist W. H. Allaway agreed with this,



NEW "SHORTY" WHEATS AT CEREAL FIELD DAY

NEW "SHORTY" WHEATS AT CEREAL FIELD DAY
George Johnson, executive secretary of the Washington Wheat Crowers Association, discusses the advantages of the new short high yielding wheat varieties, with President C. Clement French, Washington State University, Governor Albert D. Rosellini, and Dr. L. L. Madsen, director, Institute of Agriculture Sciences. The new shorty wheats developed by Orville Vogel (U.S.D.A.) will yield 10-15% higher than the standard Omar variety. Experiments by W.S.U. soil scientist, Dr. Fred Koehler, indicate that application of high rates of nitrogen (80-90# N) and 15# sulfur per acre to the shorty wheats will produce yields that are double the normal wheat yields in the Palouse area using the standard Omar variety. Research also indicates that the new wheat varieties may pull heavier on the phosphate and potash reserves in the soil with the ultimate prospect that a complete fertilizer may be needed to grow top yields.

but pointed out that vitamin content is controlled by genetics and sunshine.

R. E. Wagner, Washington, D. C., told how forage produced on the farm could be cheaper feed than purchased or home-grown feed grains. Some 225 were in attendance, and the meeting concluded with a trip to the Willamette branch experiment station at Oregon City.

#### Turf Fertilizers Discussed at Puyallup

Over 100 people, including greenskeepers, technical personnel, and homeowners turned out to see the latest turf research at the Western Washington Experiment Station at

Puyallup during the recent Turfgrass Field Day. Dr. Roy Goss, turfgrass specialist, and Dr. C. J. Gould, plant pathologist, discussed turf fertilization and disease problems affecting lawns and greens in Western Washington and Oregon.

Dr. Goss' studies indicated that total yearly application of fertilizer containing approximately 6 pounds of N, 2 pounds of P2O5, and 4 pounds of K2O, per 1000 square feet appeared to give good results for average turfgrass conditions. "Lawns should be fertilized a minimum of four times a year in order to produce the best results," he stated. Dr. Goss emphasized the fact that the homeowner should have his soil tested before applying fertilizer.

#### GEORGIA SOCIETY PRESENTS AWARDS AT TENTH ANNIVERSARY MEETING

Recognition awards in the form of handsome plaques went to the organization's past president and secretary-treasurers at the tenth antiversary meeting of Georgia Plant Food Educational Society, held at Jekyll Island in June.

Among those receiving awards were (photo at left, left to right): W. H. Appleton, Potash Company of America, Atlanta; J. Fielding Reed, American Potash Institute, Atlanta; J. Ralph Johnson (see photo at right) extension agron-

omist, Athens; J. Elam Nunnally, retired from Cotton Producers Assn., Atlanta; G. L. Dozier, Commercial Solvents Corp., Macon; and J. B. Amos, Etheredge Guano Co., Augusta. A special Outstanding Service Award went to J. Ralph Johnson (photo at right), extension agronomist who has spearheaded the Intensified Soil Fertility campaign in the state, "in grateful appreciation for outstanding personal service" to the Society.



# The International Scene

# INTERNATIONAL FAO on feeding the world

Ways of feeding the world's population were the subject of a recent meeting at the Rome headquarters of the Food and Agriculture Organization (FAO).

In the words of Dr. H. L. Richardson, project manager of the fertilizer program being conducted under FAO's Freedom from Hunger Campaign, "the simplest and quickest way to increase agricultural production dramatically, not only of food but of industrial crops as well, is to use fertilizers."

"Crop yields have doubled over the past 100 years in advanced agricultural countries, and half of this was directly due to the use of fertilizers," stated Dr. Richardson. "This 50 per cent figure is interesting, for half of the additional food which is going to be required by the year 2000 to feed the estimated additional 3,000 million world population could be met by increasing world fertilizer consumption from the present 23 to 100 million tons a year."

He explained that FAO's fertilizer program is aimed at expanding and improving the use of fertilizers wherever they are most needed. The project, which is being financed by the world fertilizer industry, is planned over a five-year period during which time a very extensive program of field demonstrations and trials will be carried out in various countries. Another part of the program will be the preparation of marketing and development studies for government use in their development of agriculture.

Dr. Richardson, concluded by stressing that this program is only the latest step in a continuing FAO soils and fertilizer program which has been going on in all regions of the world for many years, conducted through training centers, publications, experts working under the technical assistance program, and through such cooperative efforts as the International Rice Commission.

Dr. Richardson has been working in the field of agricultural chemicals since 1945 for Imperial Chemical Industries Ltd., London, England, as head of their Overseas Department, Central Agricultural Control.

#### ARGENTINA

#### Big potential; small consumption

Superphosphate and ammonium sulfate are the only fertilizers produced and these in limited quantities. No superphosphate was made in 1959 because of the high cost of domestic sulfuric acid and difficulties in obtaining it. Ammonium sulfate became available early in 1960 from the new coking operations at San Nicolas, which will supply about 8,000 tons annually.

The use of fertilizers declined almost 50 percent in 1959 from 1958 because of the sharply higher cost of imported materials. The potential market, according to Government authorities, is 10 to 15 times the quantities used in 1959. In terms of plant nutrients, 1959 consumption is estimated at 6,000 tons of nitrogen, 4,000 tons of phosphates, and 2,000 tons of potash. An investment proposal by U. S. interests for production of petrochemicals from natural gas is of interest in connection with future production of ammonium sulfate.

#### BELGIUM

#### Exports 70% of N output

Belgium exports about 70% of its nitrogen output, produced in the form of ammonium sulphate, ammonium nitrate, urea (Carbochimique) and calcium cyanamid. There are four main nitrogen producers. Basic slag accounts for 62.5% of the total production of phosphate fertilizers, which is among the world's highest. Twelve firms produce superphosphates based on imported rock. There are two firms in the potash business.

#### Ammonium Nitrate Specifications

A recent Belgian Royal Decree lays down a revised specification for what may be lawfully sold as 'Ammonium Nitrate.' The minimum content of ammoniacal nitrogen and nitric nitrogen combined is increased from 15.5 per cent to 22 per cent.

The Decree, which comes into force on October 1, 1961, has a clause permitting sales of ammonium nitrate with the lower (15.5%) content to continue until May 1, 1962, provided that the product is still in the retail trade at October 1, 1961.

#### INDIA

#### Asks tenders on 2 plants

Two chemical plant bids are invited by The Fertilizers and Chemicals, Travancore, Ltd., a semiautonomous Indian organization.

Tender No. 33 covers one phosphoric acid plant to produce 100 metric tons of 100 percent  $P_2O_5$  as phosphoric acid containing 32 percent  $P_2O_5$  per 24-hour day, 350 days a year.

Tender No. 34 calls for one complete plant for the production of 300 metric tons of 16-20-0 ammonium phosphate per 24-hour day. Nitrogen should comprise 16 percent, 20 percent being available water soluble P<sub>2</sub>O<sub>5</sub>.

Bids should reach the Superintendent, Development and Training, The Fertilizers and Chemicals, Travancore Ltd., Udyogamandal P.O., Alwaye, Kerala State, South India, by September 15.

Specifications may be obtained from the Superintendent on payment of \$5.25 for each tender. One set for each tender is available on loan from the Trade Development Division, Bureau of Foreign Commerce, U.S. Department of Commerce, Washington 25, D.C.

#### Importing Phosphate Rock

An agreement providing for the import of rock phosphate from Jordan has been concluded by the State Trading Corporation of India with the Jordan Phosphate Mines Co., Amman.

The import of rock phosphate will be against the export of tea, coffee, spices, footwear and leather goods, shellac, textiles, engineering requirement, cotton yarn and chemical and pharmaceutical products.

#### ISRAEL

#### World Bank Lends \$25 Million

The World Bank is lending \$25 million toward expansion of fertilizer production at the ancient city of Sodom, at the south end of the Dead Sea, in Israel. The sea is estimated to contain 2 billion tons of potash.

The project will involve enclosing 38 square miles of sea area for solar evaporation of brine.

When the program is completed,

export of potash and other chemicals will rank next to citrus as Israel's most important source of foreign exchange earnings.

The project is being carried out by Dead Sea Works Ltd., formed by the Israeli government but to be put into the hands of private investors.

#### JAPAN

#### Seeks Korean Trade

Japan's fertilizer producers are worried about the possible loss of the South Korean market, according to press reports in Tokyo.

The reports said the ammonium sulphate industry was trying to send a delegation to Seoul to discuss with Korean and U. S. aid mission officials "problems concerning Japan's fertilizer exports to South Korea."

This is because the industry wants to find a way out of difficulties Japan is facing as a result of America's suspension of offshore purchases with ICA funds under a "Buy American" policy.

#### NORWAY

#### Record sales reported

Norsk Hydro, the Norwegian chemical concern, reports record sales totalling Kr.600m. for the year ended June 30, 1961, a rise of Kr.40m. over the previous year. Sales of nitrogen products accounted for 74 per cent of the total, at 292,000 tons.

#### PERU

#### Plans phosphate mine

Negotiations between Peru and Japan reportedly are under way for exploiting the huge phosphate rock deposits in Peru's Sechura desert, according to Noticias, a publication of the National Foreign Trade Council, Inc.

#### POLAND

#### Franchised for Japanese process

The Power Gas Corporation, a member of the Davy-Ashmore group, has been awarded a contract worth approximately £1.5m. for process plant for Poland.

The order covers the supply of a urea plant capable of an output of 500 tons per day of specialised product for fertiliser use, including the production of a small proportion used directly as cattle feed. The plant will employ the Toyo Koatsu process, which has been licensed to the Power-Gas Corporation from Toyo Koatsu, of Japan. This will be its first application in Europe.

The contract has been taken on a deferred payment basis and the plant which it covers will be the first of five to be built in Poland under that country's present five-year plan.

#### RHODESIA

#### Invites U.S. collaboration

The collaboration of a U.S. firm to establish a nitrogenous fertilizer factory in the Federation of Rhodesia and Nyasaland is invited. Interested U.S. companies should submit proposals to the Ministry of Commerce and Industry, P.O. Box 8019, Causeway, Salisbury, before September 30, 1961

The Federal Ministry of Commerce and Industry has compiled a report on the potentialities for production of nitrogenous fertilizer and explosives in the Federation. The report describes the interest of the Federal Government in the local production of nitrogenous fertilizers, the demand for such fertilizer, the benefits which extended use would bring, and the facilities which exist for local manufacture.

The Federal Government is anxious that the fertilizer be produced at the lowest possible price and with maximum use made of local resources. At present, there are three fertilizer manufacturing or mixing companies in the Federation but none of them reportedly produces nitrogenous fertilizers. The study made forecasts a demand for about 45,000 tons by 1966.

A copy of the report, "The Production of Nitrogenous Fertilizers and Explosives in The Federation of Rhodesia and Nyasaland," is available on loan from the Trade Development Division, Bureau of Foreign Commerce, U.S. Department of Commerce, Washington 25, D.C.

#### SAUDI ARABIA

#### Mechanizing farms heavily

"Saudi Arabia is now investing heavily in an agricultural mechanization program," reports Dr. Heinrich Hablutzel, a Swiss agricultural engineer who has been on assignment in that country for the past five years for the Food and Agriculture Organization (FAO).

"They are beginning to realize that an oil-heavy economy cannot disregard agricultural production," he said. "And that drastic steps are needed to build up food and industrial crops."

When Dr. Hablutzel went to Saudi Arabia in 1956 as an expert in small agricultural implements, he found that the country was deeply involved in a change over from traditional agricultural methods to mechanized farming.

"There were plenty of new tractors, but few operators and mechanics and very little servicing and maintenance," he said. "We hope to establish a training school to provide a nucleus of badly needed staff."

#### TUNISIA

#### Sfax for N plant

Societe Tunisienne de Banque has completed a study which indicates that their proposed nitrogenous fertilizer plant should be located near Sfax. Crude petroleum is just 50 miles away at the pipeline terminus. Capacity projected is 79,000 annual tons of ammonium nitrate, and 14,000 tons of ammonia in excess of what is required from the ammonium nitrate. The plant output will greatly exceed present Tunisian demand for N, hence will provide a surplus for export.

#### UNITED KINGDOM

#### Reduces subsidy

Reduced government subsidy on nitrogenous and phosphatic fertilizers came into force the first of last month. At the present level of fertilizer consumption, this would cut the total fertilizer subsidy by about two million pounds sterling.

The rate for ground rock phosphate, which was reduced proportionally more than others last year, remains unchanged.

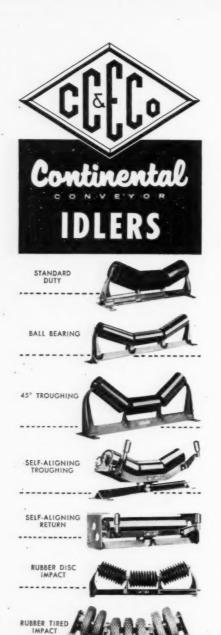
#### **WEST GERMANY**

#### Potash exports firm

Salzdetfurth AG of Hanover, a major producer and exporter of potash, is confident that its foreign sales in 1961 will be at least as extensive as they were last year.

At the company's recent annual meeting Clemens von Velsen, chief executive, noted that exports claimed 42 per cent of the 1960 sales. With foreign sales actually going up at this stage, there was no reason to assume that 1961 results would be inferior to last year's either absolutely or relatively speaking.

New potash producers entering the world market need not represent a danger to the company, the Salzdetfurth official added.



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# -of This and That ...

\_\_\_\_\_Commercial Fertilizer's June article "Price Mapping" by Robert M. Finley and John I. Bucy, seems to have rung the bell-many letters and inquiries about it.

In Florida, Polk County's 8 phosphate mining companies will reap benefits of cooperative effort when a report on all phosphate land reclamation projects is presented by the industry's Land Use and Reclamation Committee, headed by Arthur Crago, manager of American Cyanamid Co., of Mulberry. Recently the committee saw what International Minerals is doing with its mined out land, some of the projects including: 9 acres planted to citrus, 20 acres (with a lake setting) available for residential purposes; 6 more fairways and greens to provide a 9 hole golf course; a new swimming pool.

C. C. Dorough, manager of California Chemical Company's Ortho plant food plant in Kennewick, Washington, was one of a group of business executives selected to participate in the National Defense Executive Reserve Conference, called by the Business and Defense Services Administration of the U. S. Department of Commerce, in Washington, D. C., recently. In the event of a national emergency, this group will assume important executive positions in the Federal Government.

Floyd L. Lucas, sales manager of Federal Chemical Co.'s Butler, Indiana division, and with Federal since 1924, retired July 1st . . . W. M. Stallings, sales manager, Federal's Humboldt, Tennessee division, retired also on July 1st, after 27 years with Federal.

American Cyanamid says if you are tired of having mosquitoes put the bite on you these summer days, there are two things you can do about it—stop breathing or use an insecticide. Entomologists for U. S. D. A. announced recently that carbon dioxide, the chief gas exhaled in breathing, serves as a homing beacon for the voracious varmints. As soon as you breathe out, the creatures zero in and attack. If you manage to quit breathing, the mosquitoes lose interest . . . So try malathion.

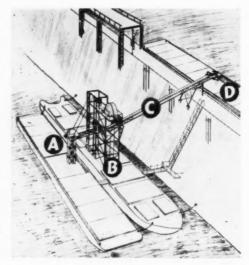
After all we've read, this is surprising: A scientist has figured that if you drink 2 glasses of milk a day for 200 years, the strontium 90 it contains at present levels would produce less radioactivity than that in a single chest X-ray.

More than half of the 1960 cotton crop was mechanically harvested, marking the first year in history that more cotton was harvested by machines than by people. This represents a big jump from 1959 when 43 per cent was harvested by machines . . . Progress marches on.

An Associated Press item datelined Tokyo, says the "U. S. Army got into farming in Japan 14½ years ago because all Japanese-grown vegetables were fertilized with night soil and were considered unsafe. It got out (of farming last month) because Japanese farmers now can supply chemically grown vegetables for American servicemen at lower cost."

#### ENGINEERS SOLVE TIE-UP AT WHEELER DAM

When a lock on the Tennessee River's Wheeler Dam, built as part of the huge TVA system in 1933, gave way on June 2, it threatened to cripple many industries that depend on this vital waterway for shipping. It also left about 100 barges and 8 towboats stranded above the dam. Normally, about 65% of all freight handled at the locks consists of grain and grain products. To meet this emergency situation, 11 grain-using firms on the upper reaches of the Tennessee formed an organization to establish an immediate solution for emergency shipments, plus long-range plans for handling up to 10 million bushels of grain a month during operation. Cargill, Inc., one of the affected firms, made available to TVA a Cargill-designed self-unloading barge, and an emergency order to engineer, fabricate, and erect auxiliary grain-handling equipment was placed with Continental Conveyor and Equipment Company, Winfield, Ala. Emergency solution is shown here. Marine leg (A) lifts grain from incoming barge at left, transferring it to Cargill-designed self-unloading barge. Equipment (B) on Cargill craft elevates grain to Continental belt conveyor (C) which further lifts and carries it over dam, discharging into barge (D) for delivery up river.



# BOOKS

#### Revised Issue Due On Western Handbook

The Western Fertilizer Handbook, an authoritative work on fertilizers, their proper use, and other crop cultural practices, has been eagerly awaited by several thousand people who have ordered it from all parts of the civilized world.

The Handbook's publishers, the Soil Improvement Committee of the California Fertilizer Association, regrets the delay in the publication of this Handbook and appreciates the patience of all who have orders on file. The Editorial Committee is made up of volunteer technicians

within the industry whose first responsibility is to their employers. Since the industry has been unusually busy, it has caused considerably more delay in publication than had been anticipated.

Assurance is made that the Third Edition will be completely up-to-date and authoritative in every detail. Practically all the type is now set and the presses will be turning with distribution expected by mid-September.

# Institute Publishes ISF Booklet

HOW TO ORGANIZE AND CONDUCT COUNTY INTENSIFIED SOIL FERTILITY PROGRAMS is the title of a new booklet published recently by National Plant Food Institute.

Designed primarily for use by the Agricultural Extension Service in the various States, the 40-page brochure cites the success of such intensified efforts in Georgia, South Carolina, Michigan, Montana and other States.

The booklet also notes how individual fertilizer companies and their personnel can participate in such Intensified Soil Fertility Programs on both the local and State level.

Attractively illustrated with line drawings and photos, the publication outlines in a step-by-step manner the procedures for carrying out such programs. A portion of the booklet also is devoted to the role individual local groups — dealers, bankers, civic clubs, women's clubs, community leaders, churches, farm youth clubs, business concerns, professional agricultural workers, school teachers and farm organizations—can play in supporting such a concentrated effort.

# SAFETY



The members of the Executive Committee of the Fertilizer Section of the National Safety Council attending the Spring meeting in Bartlesville, Oklahoma: Standing left to right—Robert L. Freeman, Houston, Texas; Dr. Ed. Largent, Richmond, Virginia; James E. Smith, Salt Lake City, Utah; M. E. Petersen, Chicago, Illinois; William S. Ritnour, Washington, D. C.; Grayson B. Morris, Richmond, Va.; John E. Smith, Kansas City, Mo.; W. A. Stone, Jacksonville, Fla.; E. O. Burrough, Jr., Norfolk, Va.; George F. Dietz, Baltimore, Md.; Seated—C. S. Griffith, Cincinnati, Ohio; John Mark, Columbus, Ohio; Gaither Newman, Norfolk, Va.; A. I. Raney, Bartlesville, Okla.; Paul Truitt, Washington, D. C.; Mike Ellison, Yazoo City, Miss.

## Executive Committee Makes School Plans

The executive Committee, Fertilizer Section, National Safety Council met during June in the Adams Building of Phillips Chemical Company, Bartlesville, Oklahoma, with Chairman A. I. Raney.

A Safety Guide for the fertilizer industry. This is a joint venture of this section and National Plant Food Institute

Plans were made to have Supervisor Safety Training Schools again this year. The dates and locations to be announced later. One major change in Safety Schools is that the California Fertilizer Institute will sponsor the western school. The others, as in the past, will be sponsored by National Plant Food Institute.

Congress Program Chairman Gaither Newman assures us a very worth while program this year and a record attendance is hoped for.

# 5 Safety Schools Planned S.E. Dates Announced

NPFI will again hold schools for accident prevention in fertilizer plants. Information on all except the Southeastern regional school is spotty—but it has been announced that this one will be a two-day affair, to be held in Wilmington, N. C., as it was last year, at the Cape Fear Hotel, August 24-25.

As was the case last year, W. C. "Billy" Creel, safety director for the State of North Carolina, will be chairman of the Southeastern program—which promises to be even better than the one he headed last year. Instructors will be qualified,

The Institute plans on distributing copies of the booklet to the Agricultural Extension Director and Extension agronomy leader in each State. Copies may be obtained from the Institute's Division of Informational Services at cost of 30¢ each.

nationally-known leaders in fertilizer safety.

A new unit on fire extinguishers and fire fighting will be added. A special unit will deal with hazardous liquids. Three of the best safety movies in the U.S. will be featured.

The other four schools are scheduled for the Northeast, probably in November; the Midwest; the Southwest, probably at New Orleans; the Far West, sponsored by CFA. No other details are now ready for release

#### Escambia Plant Awarded Du Pont Safety Trophy

Escambia Chemical Corp., plant in Pensacola was recently presented the Lammot du Pont Safety Award, one of the highest honors available for improvement in chemical manufacturing safety. R. U. Haslanger of Escambia Chemical received the plaque for his company from R. C. McCurdy, outgoing chairman of the board of the Manufacturing Chemists' Association, on June 8 at its 89th annual meeting held this year in White Sulphur Springs, W. Va.

Escambia Chemical Corp., winner in the "less than two million man hours annual work time" category, reported an injury frequency rate for 1959-60 of 1.525, a reduction of 79 per cent from the rate of 7.287 during the three prior years.

The awards first were personally sponsored in 1950 by the late Lammot du Pont, who although an officer of E. I. du Pont de Nemours & Co., undertook this means of honoring outstanding safety achievement as a personal project.

# "Hunger Signs" Out of Print

NPFI's entire supply of the book, Hunger Signs in Crops, is exhausted and they do not at present plan to reprint or revise it.

# Research Results & Reports-



PHOSPHORUS RESULTS ON WHEAT

Phosphorus made the difference between the wheat plot on the left and the one on the right. University of Illinois agronomist A. L. Lang observes a flourishing wheat crop on the plot with complete lime, phosphate, potash and nitrogen treatment. With phosphorus missing, the wheat is short, and yield prospects are much less promising.

# Harvesting Fails in Fallout Removal

Radioactive fallout cannot be removed efficiently from farm land by the harvesting of crops, according to experiments performed by the United States Department of Agriculture's Research Center at Beltsville, Md.

Soil Scientists R. G. Menzel and H. Roberts, Jr., and Agricultural Engineer P. E. James said harvesting removed only about one-fourth of simulated fallout that had been applied to crops growing on isolated field plots.

#### Agricultural Research Requires Modernization

No one would seriously advocate that technology in agriculture should not keep pace with technology elsewhere. Yet it may not be clear that to keep pace requires a program of research large enough to include the whole complex of problems facing agriculture.

Such a research effort must reduce wastes and losses; improve efficiency of production, processing, marketing and consumption; develop new and improved crops and products; expand markets; increase income of farm people; and provide improved nutrition and better living for rural and urban people.

The program must recognize that basic research in the sciences is the foundation of modern agriculture. It should make certain that all who depend on agricultural research are quickly and adequately informed of new developments and that all of our citizens are made aware of the contribution it makes to their comfort and welfare.

The nation's present agricultural research effort is too limited to meet these objectives. A program adequate to meet them will require additional facilities and personnel.

-U. of Florida bulletin

#### Cornfield on the Campus

For the 86th year, University of Illinois agronomists planted corn on the famed Morrow Plots. Now the oldest soil experiment field in America, the plots are surrounded by campus buildings. This year the entire area is planted to corn, an occurrence once every 6 years. The north one-third of the plots grows corn every year. The center third is in a corn-oats rotation. The south one-third grows a rotation of cornects elever.

# Balance Fertilizer When Profit Is In The Balance

Forage fertilization can pay the farmer good money when it is balanced to meet the needs of his soil.

By the same token it can lose him money when it is wrongly balanced for the needs of his particular soil.

This was revealed in a 7-year maintenance fertilizer experiment on a Cecil soil in southern Piedmont Virginia, according to forage authority R. E. Blaser. Cecil soils of this type occur throughout the entire Piedmont area in the South.

During a 7-year period, the agronomists fertilized an alfalfa-orchardgrass mixture with phosphate, potash, and boron.

When they applied 1,000 lbs. of 0-10-20 per acre, the grass-legume mixture yielded 4.1 tons hay per acre yearly. This represented a net profit of \$52.48 per acre.

When they applied 1,000 lbs. of 0-0-20 per acre, omitting phosphate, the yield dropped to 2.9 tons per acre. Without phosphate, the profit declined to \$27.56 per acre.

When they applied 1,000 lbs. of 0-10-0 per acre, omitting potash, the yield dropped to 1.4 tons per acre. Without potash, the operation suffered a \$10.50 loss per acre.

Further details can be secured by writing for Forage Fertilization Handbook, American Potash Institute 1102 16th Street, N. W., Washington 6, D. C.

FERTILIZATION PLOT GETS EXPERT ATTENTION

The corn fertilization plot of Waddie Moss of the Shady Grove, Tennessee, community got the once-over by a team of agricultural experts last month. Note the height of the fertilized corn, center, as compared to the unfertilized corn at the left. Looking over the plot were: from left, kneeling, Mr. Moss; Jim Turner, agronomist with the U. S. Borax Chemical Corp., Knoxville; Joe Matthews, extension service agronomist, Nashville; Joe Burns, extension service agronomist, Knoxville; Joe Burns, extension service agronomist, Knoxville; Joe Burns, extension service agronomist, Nashville; Joe Burns, extension service agronomist, Tom McCutchen; Dr. J. Fielding Reed, southern director for American Potash Institute, Atlanta, Ga.; Dr. Jim Brown, agronomist with National Plant Food Institute, Auburn, Ala; Dr. Robert L. Beacher, southern director, National Plant Food Institute, Atlanta; and Earl Bailey, agronomist with American Potash Institute, Starksville, Miss.



#### Scientists Can Modify Weather To Aid Growers

The old saying that nobody does anything about the weather is not quite true any more, according to a University of Florida agronomist.

Dr. V. N. Schroder, with the Agricultural Experiment Stations, says researchers are trying by physical, chemical and biological means to do something about the effect of light on plant growth.

But what can be done about light since we are not able to control the sun? First, says Dr. Schroder, we can select plant varieties that are adapted to our light conditions. Many commercial flower growers shorten or supplement the hours of natural daylight by shading or artificial illumination. For example, says Dr. Schroder, light for an hour in the middle of the dark period is enough to delay the blooming of chrysanthemums.

#### High Frequency Sound Lethal To Nematodes

Ultrasonics is a space-age word that has little meaning to most farmers today. But this term could become important in the vocabulary of specialized farmers in the near future.

Ultrasound waves — those at too high a frequency for detection by the human ear — have proved to be a lethal weapon against nematodes in research at the Auburn University Agricultural Experiment Station. As explained by Dr. Eldon J. Cairns, nematologist, complete kill of nematodes in water resulted from 8 to 10-second exposure to vibrations of 90,000 cycles per second frequency. With longer exposure, he said, the eel-like nematodes were disintegrated by the vibrations.

The 90,000-frequency sound waves were not harmful to plant roots over a long period, but higher frequencies damaged plant tissues. On the other hand, he revealed, lower frequencies were not harmful to nematodes. Thus, the researcher has discovered the critical lethal range of frequencies.

Use of ultrasonics is not just a scientist's dream. High frequency generators of different sizes and varying capacities are commercially available, according to Dr. Cairns.

#### NC Budget for Research

The executive committee of the North Carolina Agricultural Foundation, Inc., has approved the expenditure of \$187,458 to support a wide range of teaching, research, and extension projects in agriculture at North Carolina State College during the 1961-62 fiscal year.

#### Soil, Water Study Urged For Hawaii

More than \$200,000 yearly is needed to meet soil and water conservation research needs in Hawaii.

Agriculture Secretary Freeman has stated that an effective research program can be carried out at an initial cost of \$260,000 with sustaining annual appropriations of about \$225,000.

Senator Oren E. Long of Hawaii said he will press for enough money to permit the research program to start in 1962.



TIME TESTED PRODUCTS FOR INDUSTRY



# Crop Chemicals

a now-and-then department noting pesticides industry developments of interest to the fertilizer manufacturer

### 90% Of Farmers Use Pesticides, Beal-Bohlen Iowa Study Shows

Nine out of ten farmers are using at least one agricultural chemical, two Iowa State University sociologists reported at the 54th annual summer meeting of the American Society of Agricultural Engineers in Ames, Iowa.

One-third of 315 Iowa farmers interviewed were using only one of the six kinds of chemicals: weed killers, soil insecticides, brush killers, crop insecticides, grass killers and grain fumigants.

George M. Beal and Joe M. Bohlen reported that the average number of the six kinds of chemicals used by all farmers in the sample was 1.85.

While most farmers were using some chemicals, about 25 percent were using them only on fencerows, ditches, and roadsides. Many of the remaining farmers were using them on a 'spot,' or limited application basis, on their field crops, Drs. Beal and Bohlen added.

The farmers interviewed were spending an average of only \$47.02 a year for their agricultural chemicals. Over 25 percent spent \$20 or less annually. The range was from no dollars to \$629, they revealed.

While only 29 percent of the farmers purchased more than \$50 worth of agricultural chemicals, this group accounted for 73 percent of the total dollar purchases.

What stops farmers from buying and using chemicals? Beal and Bohlen found the purchase cost to be the most frequently mentioned limiting factor. Other reasons listed by farmers included: (1) Using all I need, (2) Lack necessary application equipment, (3) Application takes too much time during the busy seasons, and (4) Risk and uncertainty involved in use.

Many of these 'limiting factors' appear to be indications of lack of knowledge about agricultural chemicals and their potential, they noted.

Also significant was the fact that not many farmers mentioned low return per dollar invested as a limiting factor. The people who did mention this were generally the bigger users of chemicals, they stated.

Why do farmers use agricultural chemicals? Beal and Bohlen's study

showed the three most often quoted answers were: (1) Best way to get rid of nuisance and/or control pests, (2) Improve crop yields, and (3) Makes the job easier.

By and large, farmers who used chemicals were satisfied with the results. However, users of soil insecticides, brush killers, crop insecticides and grain fumigants were more satisfied with their results than were users of weed and grass killers. Some of the dissidents were expecting more from the chemicals than they were designed to do, they added.

A chemical knowledge test given to the 315 farmers revealed that there was little more than chance knowledge by farmers on chemicals and their use. Drs. Beal and Bohlen also found a highly significant relation between agricultural chemical knowledge and money spent for chemicals.

It was also noted that farmers who valued the importance of chemicals to farm income spent more for chemicals than other farmers. And farmers who kept records and used them as a basis for decision making and planning were using significantly more chemicals, they added.

The two professors were assisted in this study by Daryl Hobbs, a graduate student in sociology.

#### **NAC Elects Directors**

The election of two new members of the board of directors of the National Agricultural Chemicals Association was announced by L. S. Hitchner, executive secretary of the Association.

Howard J. Grady, president, Ortho Division of California Chemical Company and Daniel J. Keating, vice president and general manager, agricultural chemicals division, Stauffer Chemical Company, were elected directors.

#### Studies European Market

Agrichemical marketing consultant Theodore Riedeburg is spending most of July and August in Europe making a study of pesticide requirements in the Benelux Countries, Germany, Switzerland, France, Italy and the British Isles.

Mr. Riedeburg, whose firm, Theo-

dore Riedeburg Associates, New York, has pioneered in both the marketing and the research and development of biologically active compounds, stated that his clients are anxious to learn, in greater detail, what potentials there are for marketing specialty products in Europe under current competitive conditions.

#### **Drugs for Sick Crops**

One of the most important group of pharamceuticals to be turned against plant diseases are the "miracle" antibiotics, that have scored so many victories against human sick-ness. Formerly "incurable" plant diseases, are now given regular treatment with antibiotics. Those already controllable with the drugs include fire blight of pears and apples, walnut blight, bacterial spot of tomatoes and peppers, potato seed piece decay, wildfire and blue mold of tobacco, halo blight of beans and bacterial blight of celery. So important has this phase of agricultural research become, that in 1955, the first International Conference on the Use of Antibiotics in Agriculture was held in Washington, D. C. The drugs may be either sprayed or dusted on plants, or used as a dip for seeds before planting, and are employed both to prevent and treat infected crops. The importance of this effort is graphically illustrated by the figure \$2,000,000,000-annual cost of plant diseases to the nation each

Foremost in the field are various research programs of the USDA. Current research at Peoria, for example, includes work on fermentations that yield antibiotics effective against plant diseases caused by rusts, mildews, and blights. The Laboratory has found antibiotic mixtures effective in greenhouse tests against fungus diseases of several crops as well. The USDA Crop Protection Research Branch engages in full scale studies concerned with, among others, epidemiological research on the nature and occurrence of plant diseases and forecasting epidemics; preparation and dissemination of plant disease information and evaluation of antibiotics and related compounds for plant disease controls.

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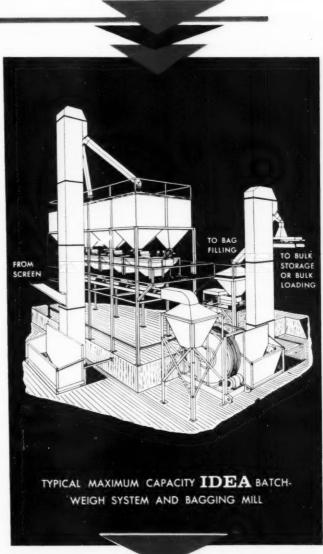
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#### CF Staff-Tabulated TONNAGE REPORTS

FERTILIZER TONNAGE REPORT (in equivalent short tons) Compiled by Cooperating State Control Officials and Tabulated by COMMERCIAL FERTILIZER Staff

Ju		e	Ma	iy	April		JanMar. Quarter	July-December		YEAR (July-June)		
STATE	1961	1960	1961	1960	1961	1960	1961	1960	1960	1959	1959-60	1958-59
Alabama	78,341	86,558	195,580	175,641	274,662	350,718	264,658	258,322	181,587	180,959	1,050,199	1,045,560
Arkansas	51,257	42,378	60,625	35,752	105,999	126,184	94,138	99,521	61,634	58,714	362,548	353,130
Georgia	259,366	226,167	305,450	414,392	498,625	306,864	222,787	154,797	313,241	299,194	1,401,414	1,425,749
Kentucky		43,505*		131,612*	76,818	144,047	170,455	137,512	102,192	108,734	570,520	591,380
Louisiana	29,694	29,603	43,670	44,488	73,812	76,347	73,164	73,649	73,814	66,744	290,821	265,794
Mississippi	64,760*		115,112*		193,506*		177,150	170,706	145,632	144,374	689,797	693,288
Missouri		72,253*	181,433	166,112	120,750	196,241	149,929	81,573	334,657	277,708	802,044	933,090
N. Carolina	112,231	113,740		303,065*	463,919	571,328	500,145	393,130	202,694	175,533	1,556,796	1,696,759
Oklahoma	12,440	11,213	20,310	17,164	18,661	24,349	36,433	19,520	94,690	72,511	144,757	133,586
S. Carolina	56,607	53,388	125,695	96,255	123,024	262,096	387,839	267,247	110,096	104,903	783,889	890,302
Tennessee	40,968	45,157	150,723	114,932	126,139	193,816	188,449	126,524	124,747	117,275	607,727	570,718
Texas	79,550	92,452	99,438	80,575	129,891	108,583	222,801	276,802	234,376	233,410	708,037	664,651
California		(reports	compiled	quarterly)			354,760	350,259	462,347	465,495	1,278,611	1,262,996
Virginia		. (reports	compiled	quarterly)			258,171	221,611	168,479	141,177	732,290	779,143
Indiana			(repo	rts compiled	semi-annua	lly)			317,372	321,956	1,150,120	1,172,657
New Hamp	New Hampshire		(reports compiled semi-annually)							3,694*	18,182	20,889

720,454 700,656 1,182,924 1,145,311 2,012,300 2,360,573 3,100,879 2,631,173 2,927,558 2,768,687 12,147,752 12,499,692

(not yet reported)

\* Omitted from column total to allow comparison with same period of current year.

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#### 1961 Corn Production Falling Below Consumption

Corn production this year will be below consumption for the first time in ten years, according to John A. Baker, director of Agricultural Credit Services for the Department of Agriculture.

He said the Emergency Feed Grain Program will cut the 1961 corn harvest by 700 million bushels-18 per cent below the 1.891.000 total for 1960

Addressing the Fertilizer Management Seminar at International Minerals & Chemical Corporation, Skokie, Mr. Baker said July 20 that the reduction will save the Federal Government more than a half billion

He said the saving would be made in reduced storage and carrying charges, after cash payments paid or promised to farmers who diverted feed grain acres under the program.

Baker added that this reduced production means that the government will sell corn acquired from previous crops rather than "spending the taxpayer's money to acquire corn that we don't need."

Turning to agricultural shipments abroad, Mr. Baker told the fertilizer men attending the 3-day seminar that the government is working to develop larger overseas markets, particularly in nations that are "able to pay for our food and fibers with dollars or other 'hard' currencies."

He said that approximately 70 per cent of current overseas agricultural shipments are commercial sales. with only 30 per cent going abroad under other programs.

Agricultural exports during the year ending June 30 totaled \$4.9 billion, Mr. Baker added.

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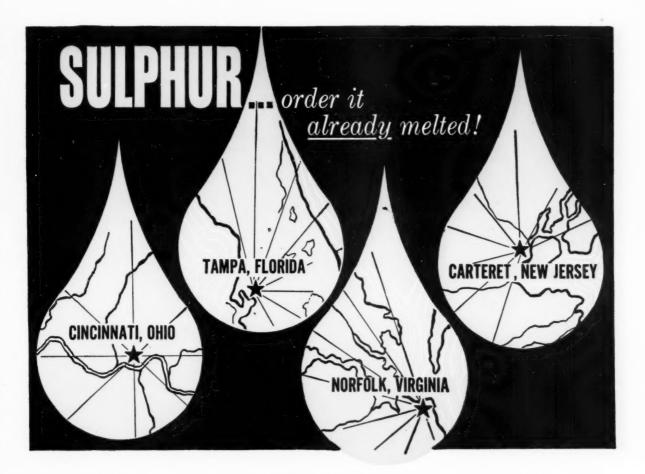
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